

# Manufacturers Record

Industry Construction



\$6.50 per Year.  
Single Copy, 20 Cents.

Baltimore, Md.  
DECEMBER 11, 1930

## South's Construction Increases

Month by month the South has been pushing on to a new high construction record. With the close of November, total contracts awarded in the 16 Southern States for all classes of building and engineering projects amounted to more than \$856,000,000. This 11 months' total, as compiled by the Construction Department of the Manufacturers Record, is \$70,000,000 in excess of the value of contracts let during the entire 12 months of 1929. Also, the total is within \$37,000,000 of the record established in 1925 and 1926, and is \$27,000,000 ahead of the five-year average of 1925-1929.

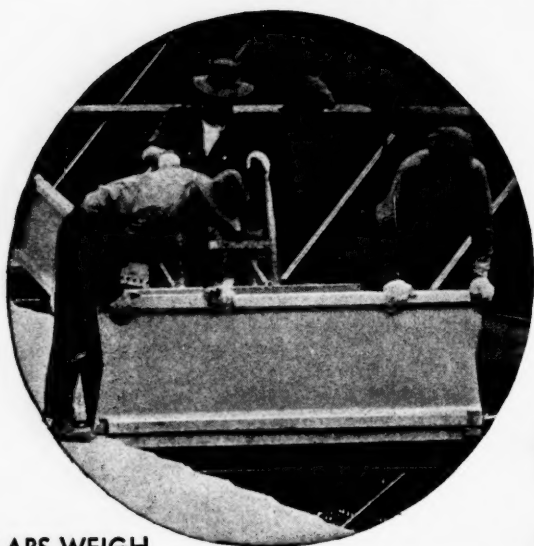
Construction contracts in the South during November amounted to more than \$42,000,000. This is a gain of nearly \$7,500,000 over November 1929 and is nearly double the total of construction contracts awarded for November 1921 during a period of business depression.

Not alone has the South made this remarkable construction record during 1930, but construction work proposed during November aggregates more than \$110,000,000 which, with the carry-over at the end of October amounting to about \$100,000,000, gives a total figure of \$200,000,000 for construction in prospect for the South.

This is a most encouraging outlook as the new year approaches. At a time when construction generally throughout the country has been below normal, the South by the record made demonstrates its faith and its courage. It is undertaking expansion programs to provide for present and near-future requirements.

More detailed information on the South's construction program will be found elsewhere in this issue.

# Featherweight Concrete INSULATING ROOF SLABS



SLABS WEIGH  
AS LOW AS

**10**

LBS. PER SQ. FT.

.....Go on  
the SAME LIGHT  
STEEL FRAME that  
carries other roofs

Concrete has always provided the highest type of roof-deck available. In true permanence, fire-safety and freedom from maintenance, it has never been equaled.

Featherweight concrete goes a step further—it adds to these values a new *light weight* (as low as 10 lbs. per sq. ft.) and an *insulating* value, also new to concrete.

That the resulting economies are vital, is thoroughly proven by Featherweight's acceptance for the buildings of leading industrials, railroads and utilities, as well as for fine public buildings. Millions of square feet are in use. "Catalog and Roof Standards" on request.

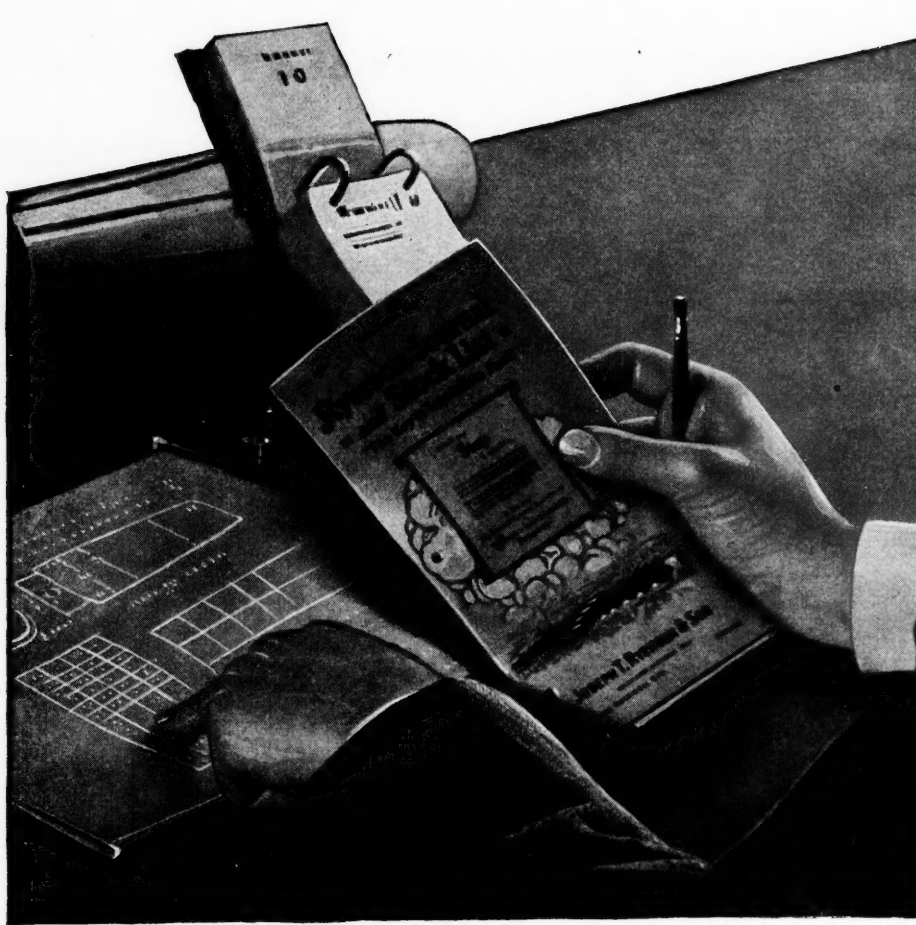


Haydite aggregate with its millions of trapped air cells is used in place of sand, to make Featherweight Concrete. Haydite is burned shale — vitrified, impervious and strong.

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**FEDERAL-AMERICAN CEMENT TILE CO.**

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Plants Near CHICAGO . NEW YORK . PITTSBURGH . BIRMINGHAM  
FOR OVER A QUARTER CENTURY





## This Book has Solved Many Steel Problems

It is the national guide used by thousands of manufacturers and builders throughout the country. It gives sizes, weights, prices, and more important, complete lists of steel actually in stock ready for current use.

It is the Ryerson Journal and Stock List—Key to immediate steel—more than 175,000 tons carried in stock at the ten Ryerson Steel-Service Plants. Separate editions give the local stocks at every plant, and each is cross referenced with the other to facilitate national buying. We will be glad to send you all of the editions in which you are interested. Address the nearest plant.

### JOSEPH T. RYERSON & SON INC.

Plants: Chicago, Milwaukee, St. Louis, Cincinnati, Detroit, Cleveland, Buffalo, Boston, Philadelphia, Jersey City

Representation in: Minneapolis, Rockford, Kansas City, Tulsa, Houston, Dallas, Newark, New York, Denver, Los Angeles, San Francisco

# RYERSON

#### Structural Steel

Immediate Shipment of all standard sizes, cut to length.  
Structural "I" Beams  
Structural "H" Beams  
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Girder Beams

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Mild Steel  
Cold Finished  
Refined Iron  
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Forging  
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Turned Ground and  
Polished Shafting  
Free Cutting  
Stem Rounds  
Alloy Steel  
Tool Steel

#### Special Steels

Alloy Steels—S.A.E. Specifications  
Ryolite Tool Steel in different analyses meeting the various tool steel requirements.  
Ryolite "4 Point" Chisel Steel.  
Allegheny Metal, a SUPER Corrosion resisting metal.  
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Single Pickled  
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Reinforcing Steel and Accessories.  
Metal Lath  
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Plastering Channels  
Corner Bead  
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Machine tools and metal-working equipment of all kinds including  
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Milling Machines  
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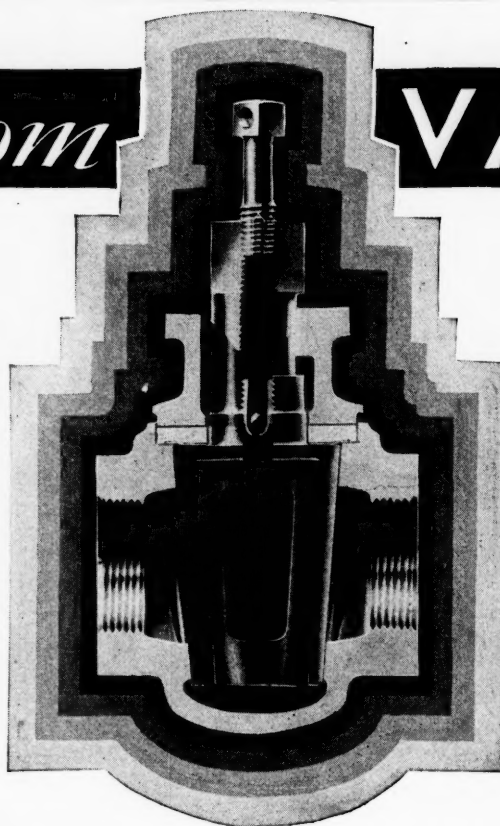
## STEEL SERVICE

**NORDSTROM, THE PERFECT APPLICATION of a PRINCIPLE**  
**THE VALVE CONTROLS THE FLOW; THE SCREW CONTROLS THE VALVE**

*Nordstrom*

**VALVES**

Hydraulic  
lubrication  
insures  
effective  
manipulation



A turn  
of the  
screw pushes  
lubricant  
through



**H**igh pressure lubrication prevents valve leakage by application of the Nordstrom principle.

Nordstrom Valves prevent leaks and stay tight after long service. A force several times that of the line pressure is used to force viscous "Merco" lubricant into every pathway of leakage, thereby sealing the valve effectively from further leakage. The seat and plug surfaces are renewed completely by making use of the proper lubricants. At the same time pressure lubrication performs the other functions of a hydraulic jack when necessary to loosen the plug when stuck and so reduces the coefficient of friction on sliding metal surfaces held together under high pressure. Furthermore, Nordstrom Valves effectively combat corrosion and erosion when used as a stop in the pipe line. None of the vital parts are exposed to disintegrating forces of the fluid. We strongly recommend the use of genuine "Merco" lubricants. Ask for Catalog.

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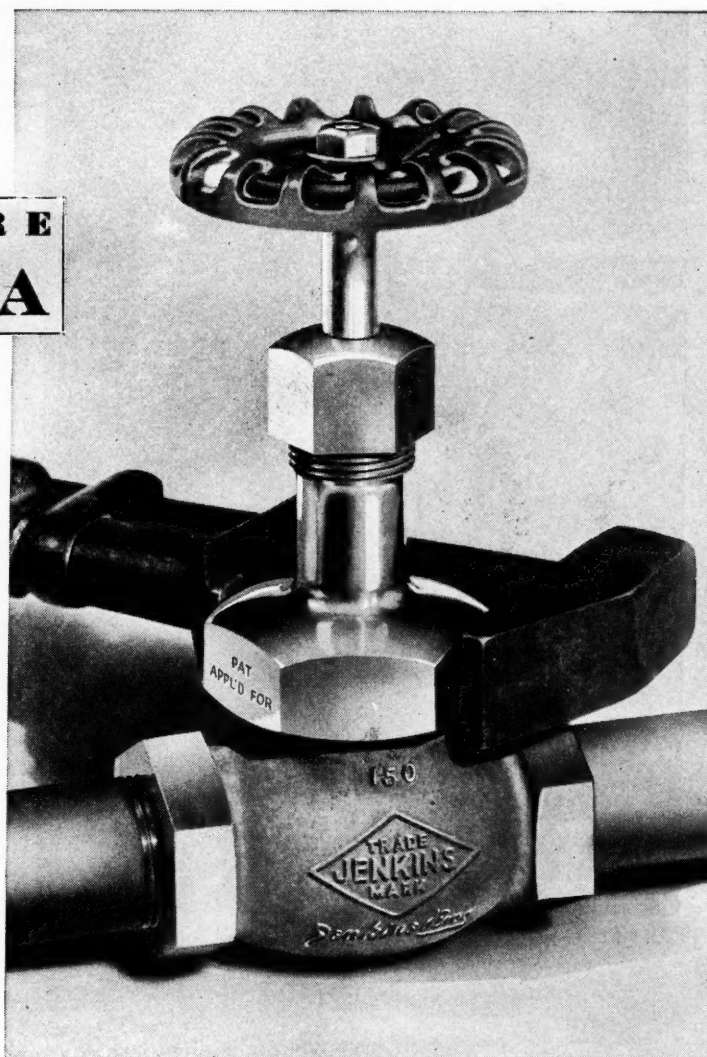
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**SEALED AGAINST LEAKS**

**FIGURE  
106-A**

**This one-piece  
screw-over bonnet  
won't distort . . .**



Here is a valve that doesn't "fear" a wrench. It is a Fig. 106-A Jenkins Standard Bronze Globe with the one-piece screw-over bonnet.

This bonnet construction provides unusual strength to resist the strains of frequent removal. You can take the bonnet off and replace it repeatedly, and it won't distort. The large hex faces enable you to get a full purchase with a wrench.

Another advantage of Fig. 106-A is the slip-on stay-on disc holder . . . a real

FIG. 106-A, Screwed, Jenkins Standard Bronze Globe Valve, with one-piece screw-over bonnet and slip-on stay-on disc holder. For 150 lbs. steam working pressure, or 250 lbs. oil, water, gas working pressure.

innovation, possible only in this screw-over bonnet design. Ask your supply man to show you this Jenkins. Its superiority of construction and finish can be seen at a glance. It is made also in angle, cross and check types, screwed or flanged. Write for Bulletin 141 containing details.

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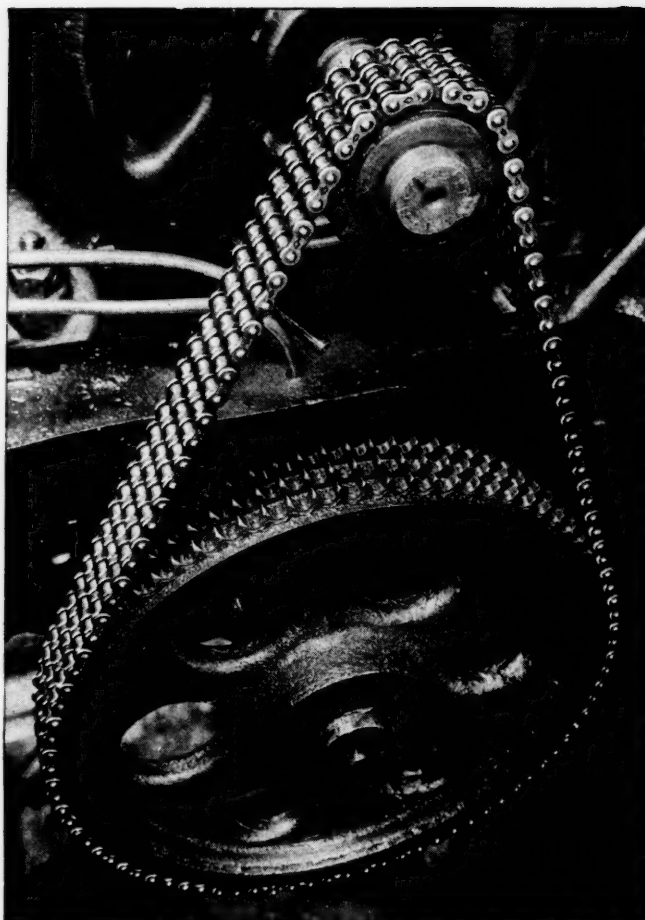
# Jenkins

## VALVES

Since 1864

**JENKINS VALVES ARE ALWAYS MARKED WITH THE "DIAMOND"**





# DIAMOND STOCK Drives *eliminate the delay—*

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and their fulfillment

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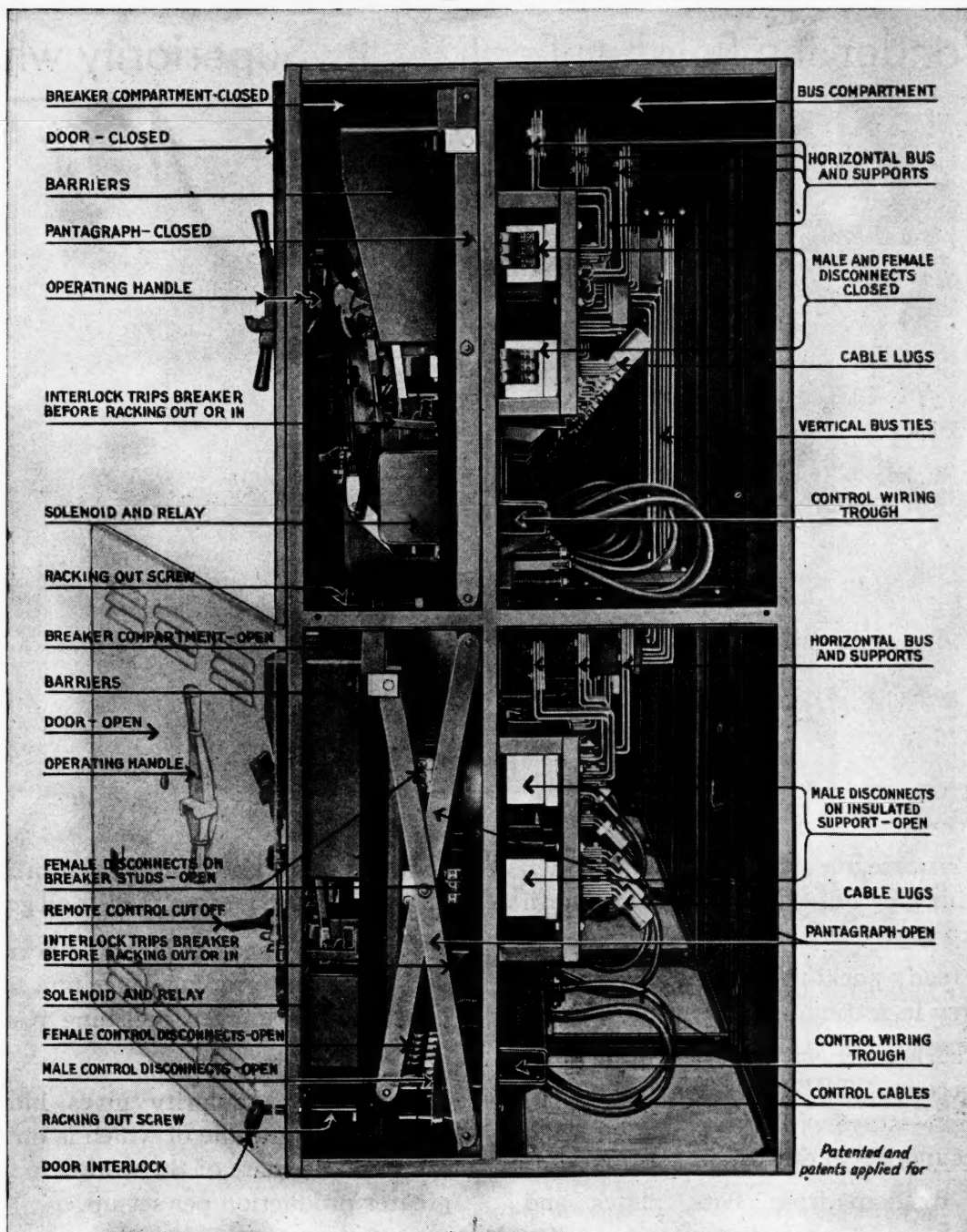
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## The Inside Story of the Multumite

"The  
World's  
Largest  
Builders  
of  
Air-Type  
Circuit  
Breakers"



"The  
World's  
Largest  
Builders  
of  
Air-Type  
Circuit  
Breakers"

This is a Multumite-Hingite group mounting ten solenoid operated U-Re-Lites of 1250 amperes capacity at 440 volts, 3 phase, 60 cycles. Multumite groups are also made without the double disconnects (Rigite con-

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Get in touch with our nearest representative for data on a Multumite group to meet your requirements.

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No Wonder the Polisher Realizes Its Superiority when—



- Its surface tenacity saves him money on his glue bill—"TP" stays put until worn out.
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- Its surface tenacity cuts his grain costs—because "TP" has greater glue adhesion—stays with the wheel longer—does more real downright cutting.
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- Its uniformity as to hardness, sharpness and controlled grading saves him from losses due to uneven polishing results and scratching.
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*And remember, please, that "TP" is a High Surface Tenacity Polishing Grain, originated by The Carborundum Company*

# ALOXITE Brand "TP" Polishing Grain

REG. U. S. PAT. OFF.

IT CUTS, WHILE IT HOLDS, WHILE IT POLISHES

THE CARBORUNDUM COMPANY, NIAGARA FALLS, N. Y.

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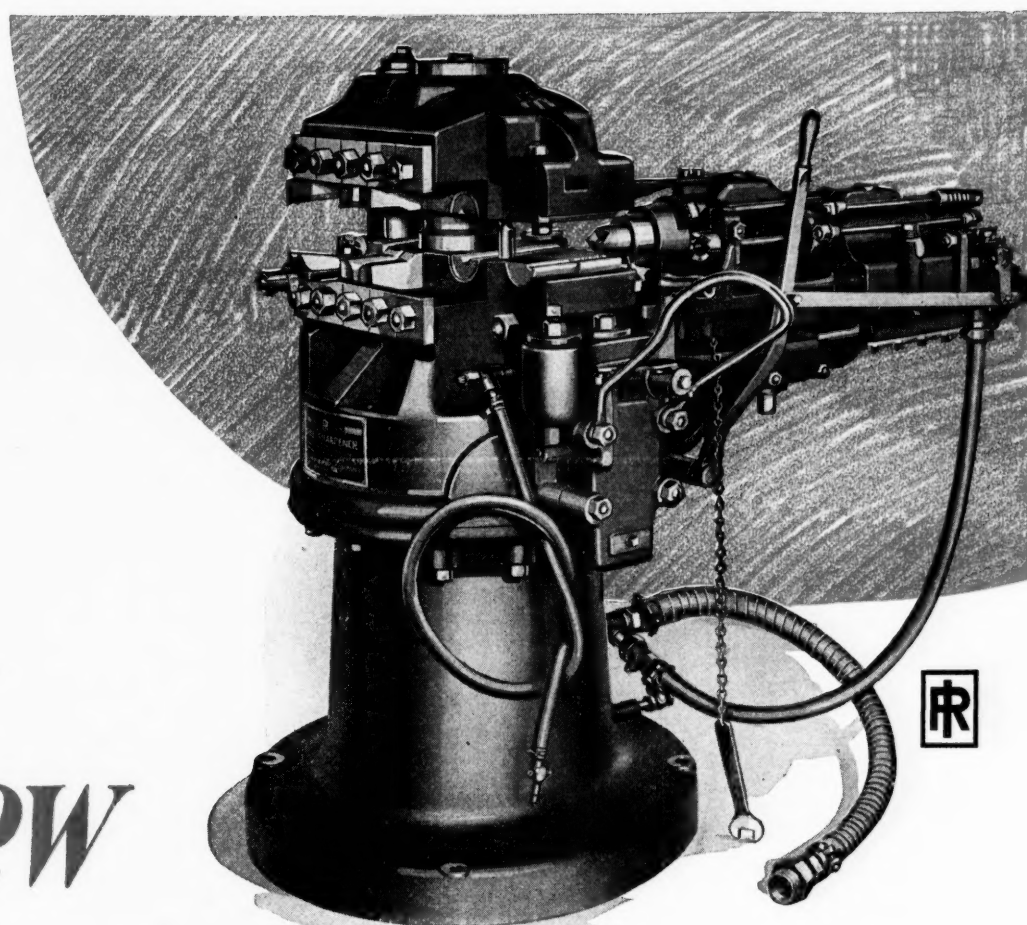
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(CARBORUNDUM AND ALOXITE ARE REGISTERED TRADE MARKS OF THE CARBORUNDUM COMPANY)



A  
New



# I-R SHARPENER

We have added another sharpener to our line. There are now four sizes.

This new machine is known as the I-R 40, and is offered to the trade with the knowledge that it is the fastest, most powerful, and most economical sharpener of its size and weight on the market today.

It is the result of two years of development and extensive testing under both factory and field conditions. Moreover, it reflects the knowledge and experience gained throughout 23 years of sharpener manufacture.

This new I-R 40 sharpener is the ideal machine for jobs using steel of any section up to 1 1/4" in diameter and bits up to 3" in diameter. Many of the accessories for the new No. 40 sharpener are interchangeable with the No. 5 and No. 50 machines.

Weight 2655 lbs.

Price, less accessories, \$1,000.00 F.O.B. Factory

Available for Immediate Shipment.

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# gas heat

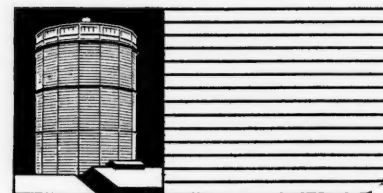
FOR SOFT METAL MELTING



YOU CAN DO IT BETTER WITH GAS

Modern shop practise dictates that the fuel for soft metal melting  
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## *in Setting Steel* *with the*

### VARIABLE SPEED MOTOR accelerator controlled

**B**Y a slight change the Accelerator Control of the Northwest Variable Speed Motor can be turned into a mechanical retard that will slow the speed of the engine way down.

The reduction of the engine speed eliminates the grabbing of the clutches and makes possible the easy shifting of the load as little as  $\frac{1}{4}$  inch at a time.

Every construction company should know more about this exclusive Northwest feature.

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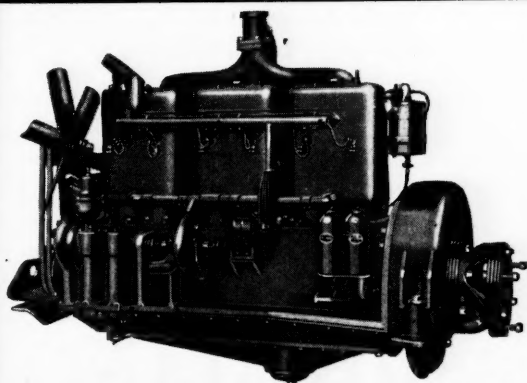
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*The world's largest exclusive builders of gasoline, oil  
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MR12-11 Gray



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**WATCH** the open-hearth furnaces in the Roebling steel mill and you will see the pictured procedure repeated time and time again. It is sampling the melt for a chemical check in the laboratory.

Wire Rope can be no better than the steel of which it is made. For Roebling "Blue Center" Steel Wire Rope the acid steel must measure up to exceedingly high standards. Its quality is closely controlled in small open hearth fur-

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Hundreds of thousands of feet of Roebling "Blue Center" Steel Wire Rope are produced yearly by the most modern of production methods. But it is old-fashioned thoroughness that protects its quality every step of the way.

**JOHN A. ROEBLING'S SONS COMPANY**

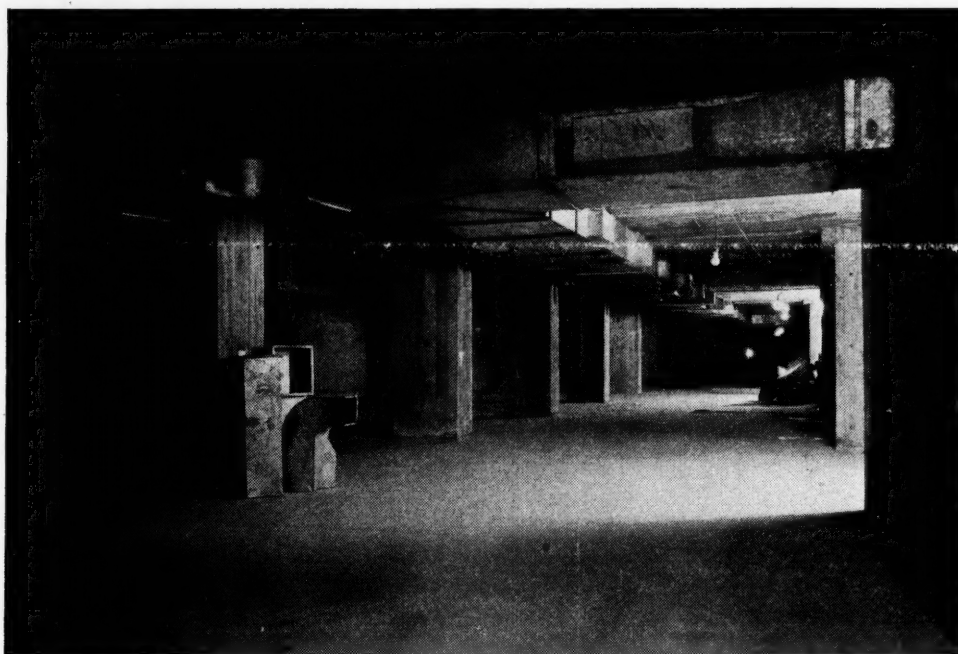
WIRE • WIRE ROPE • WELDING WIRE • FLAT WIRE  
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# ROEBLING



# WIRE ROPE

# WORKABILITY *and* PROFITS



*The ventilating system in the City Bank—Farmers Trust Building, New York City, fabricated with Youngstown Copperoid sheets and installed by Baker Smith & Co. of New York.*

**I**N THE MANUFACTURE of any product that is fabricated from steel sheets, or in sheet steel installations of any kind, the workability of the sheet is a major factor in determining net profits. Thousands of fabricators of sheet metal products and sheet metal workers have found from wide experience that it pays to use Youngstown sheets—because they are so easy to form, stamp, draw, seam and weld.

This quality of workability is an outstanding feature of Youngstown Copperoid sheets, but they have still another feature that is equally important, and that is their durability. They resist the destructive action of corrosion, smoke and gases, and have conclusively proved their ability to outlast plain carbon steel sheets by many years. Experience has shown that Youngstown Copperoid costs less per year of service.

Youngstown products are distributed by leading jobbers everywhere. For additional information apply to the nearest sales office listed below or direct to

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*One of the oldest manufacturers of copper-steel, under the well-known and established trade name "Copperoid"*

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# YOUNGSTOWN

GALVANIZED SHEETS PROTECT    ::    ::    ::    ::    ::    SAVE WITH STEEL

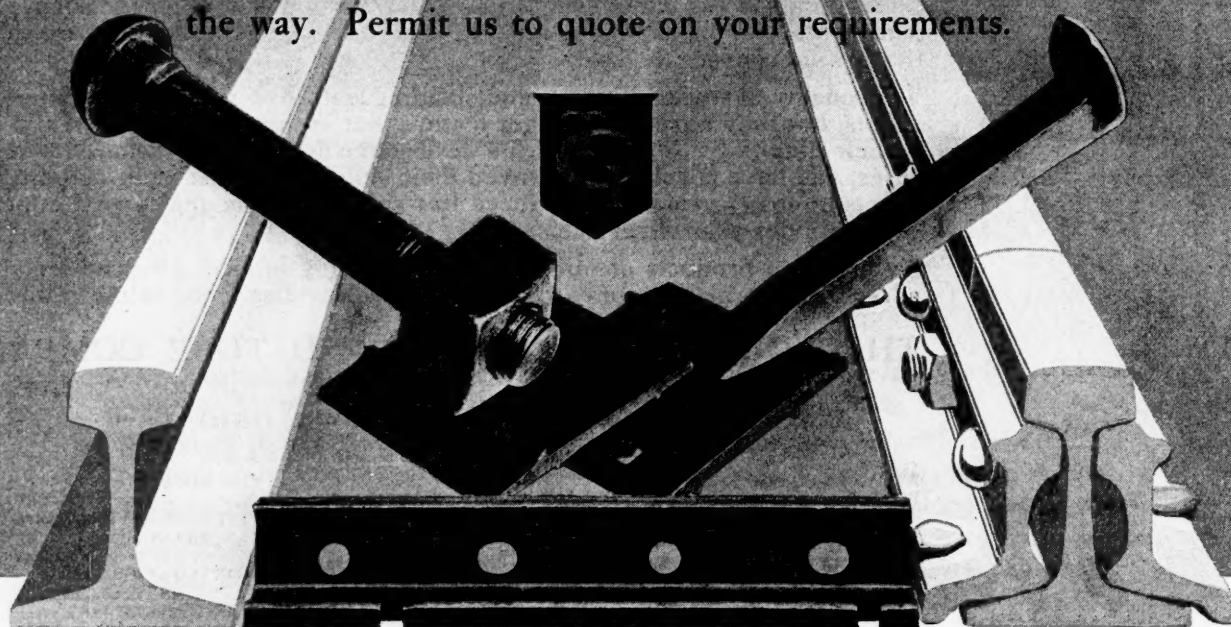
# TENNESSEE

## TRACK MATERIALS



### Standing the Strain *of Lightning Expresses and Ponderous Freights*

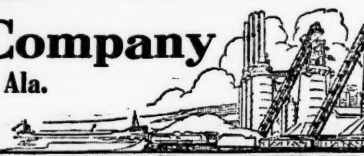
Each and every TENNESSEE rail, angle bar, bolt, spike and tie plate is designed and produced with the exact knowledge that comes from long experience. Adequate manufacturing facilities and searching inspection insure uniform excellence every step of the way. Permit us to quote on your requirements.



### Tennessee Coal, Iron & Railroad Company

General Offices: Brown-Marx Building, Birmingham, Ala.

SUBSIDIARY OF UNITED STATES STEEL CORPORATION



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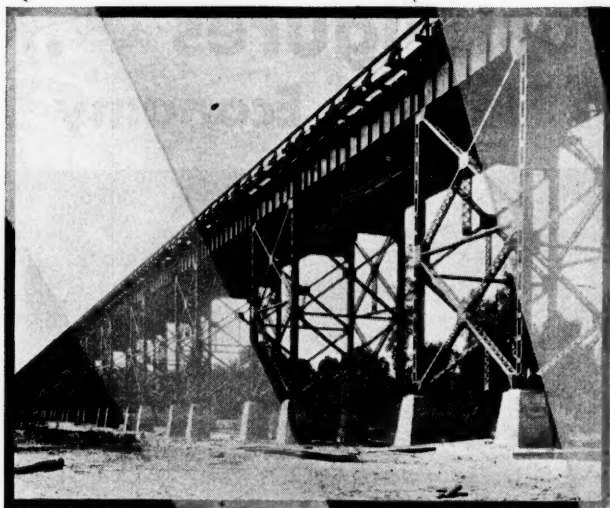
THE LORAIN STEEL COMPANY

TENNESSEE COAL, IRON & R. R. COMPANY

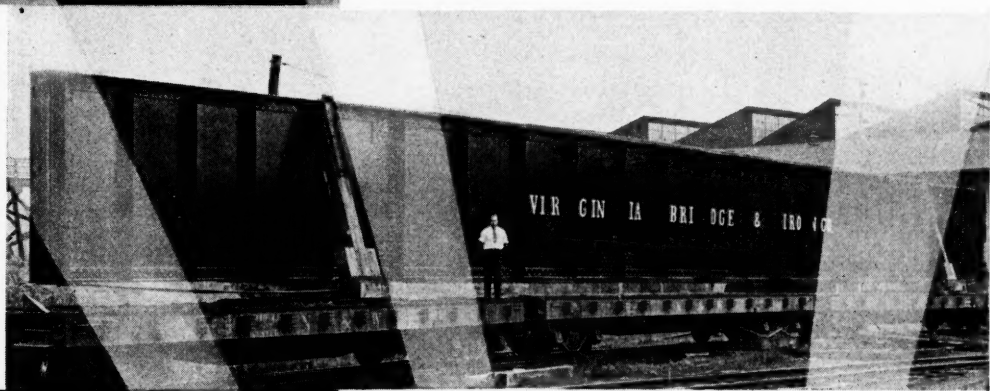
UNIVERSAL ATLAS CEMENT COMPANY

Pac. Coast Distributors—United States Steel Products Co. Columbia Dept., San Francisco, Los Angeles, Portland, Seattle, Honolulu. Export Distributors—United States Steel Products Co., New York City





In the Highlights or Shadows,  
Steel is Still the Strongest  
and Most Dependable Material  
for Railroad and Highway  
Traffic.



Top: 4111-foot West Approach to Mississippi River Bridge at Vicksburg, Miss. Harrington, Howard & Ash, Kansas City, Mo., Engineers. 4500 tons of steel manufactured and erected by us.

Center: 127-foot Plate Girder leaving our Roanoke Plant for Louisville & Nashville R. R. Bridge.

Bottom: 350-foot Spans over Yazoo River at Redwood, Miss., which we recently completed for State of Mississippi.

ALL kinds and sizes of Steel Bridges have been "grist for our mill" for more than 35 years. We have designed, manufactured and erected all types of fixed and movable highway and railroad bridges.

We claim a considerable proficiency in this type of construction as well as in all building involving the use of steel.

Let us furnish you designs and estimates on your proposed work large or small. If you are an interested citizen, we shall be glad to tell you as to the advantages and economies of steel.

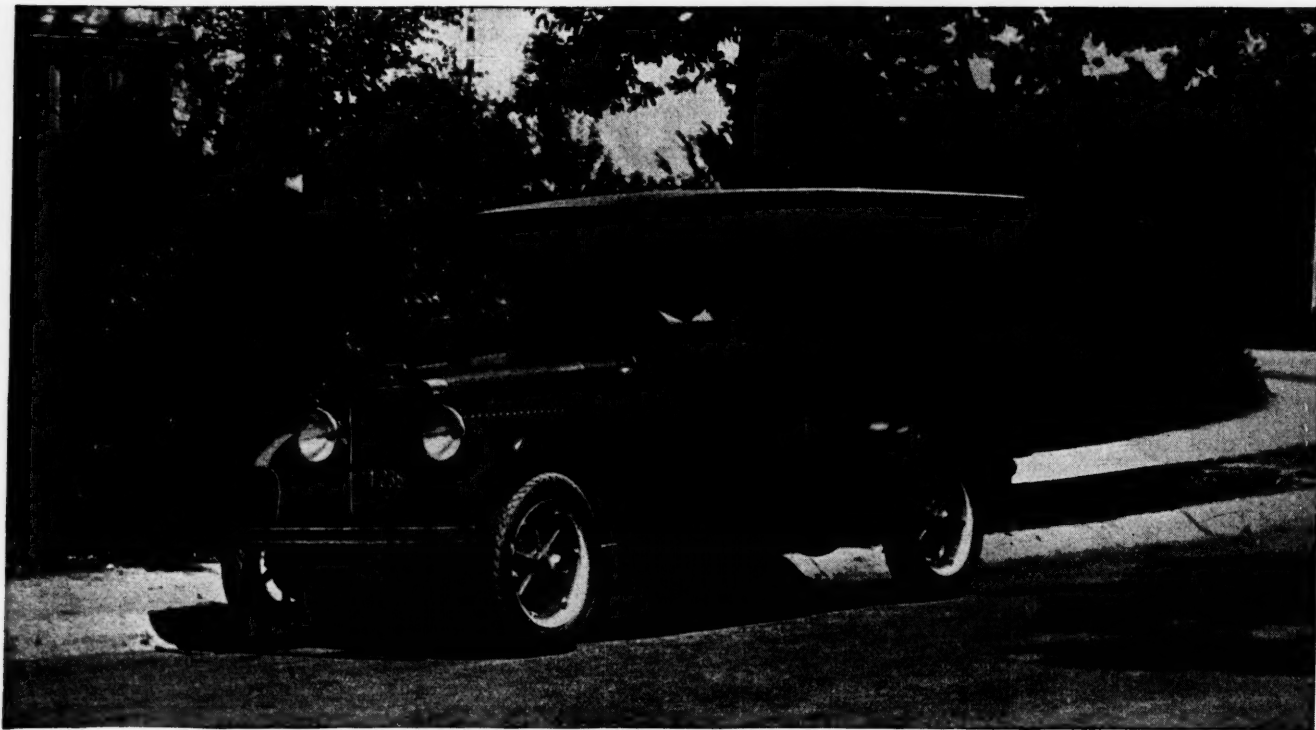
**VIRGINIA BRIDGE & IRON CO.**

Roanoke Birmingham Memphis Atlanta New Orleans  
New York Los Angeles Charlotte Dallas El Paso

**VIRGINIA BRIDGE**  
STEEL STRUCTURES

## Read These Low Cost Figures . . .

### A Striking Example of Hauling Economy



*The new International Special Delivery has graceful lines, and new features that you will find interesting for delivery service.*

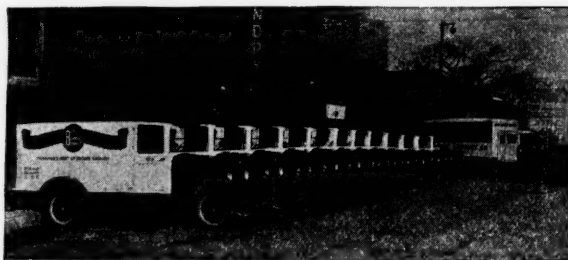
**T**HERE is a set of cost figures which demonstrate the efficiency of the International Special Delivery Truck. The Campbell Laundry Company of Milwaukee, Wis., operates an exclusive International fleet. Twelve of the trucks are Special Delivery models and the other is an International Speed Truck.

The twelve Special Delivery trucks went into service January 28, 1928. In the 23-month period ending January 4, 1930, they covered 255,546 miles, an average of 21,295 miles per truck. One truck covered over 35,000 miles.

During 1929 the twelve Internationals averaged 11.2 miles per gallon of gasoline. The truck with the best record averaged 13.42 miles per gallon. The

lowest average was 7.1 miles per gallon for a truck operating in the congested area where many stops were required. Oil consumption in 1929 averaged 12.5 gallons per truck.

Parts purchased in the 23 months amounted to \$379.47, of which \$157.41 went for repairs due to accidents and collisions. This left \$222.06, an average of \$9.65 per truck per year for all service requirements. Only 5 trucks had valves ground and only three required refacing of clutches. Take these figures as evidence of what International Trucks can do for you. Ask the nearest of the 180 Company-owned branches in the United States and Canada for information and a demonstration. Write us for catalogs and detail information.



*Showing the International fleet that has performed so economically for the Campbell Laundry Company.*

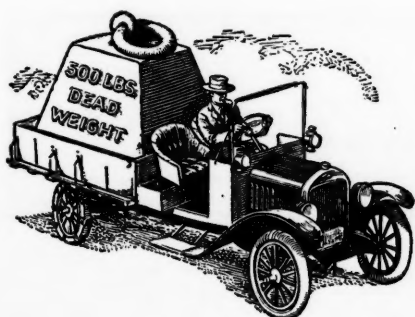
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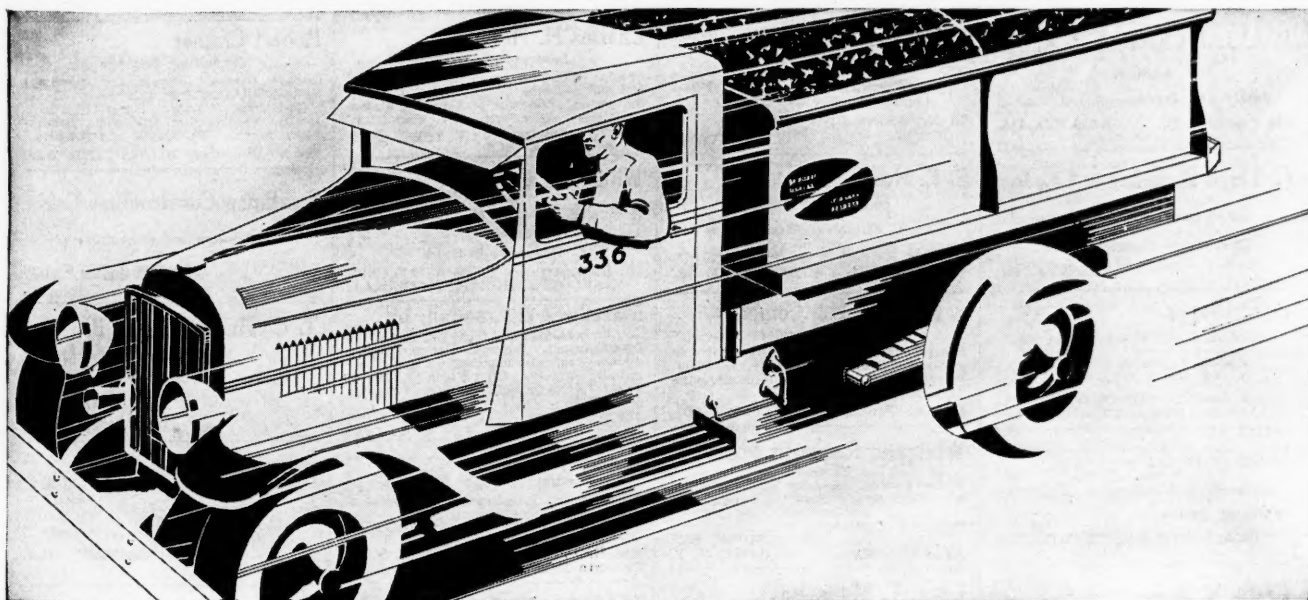
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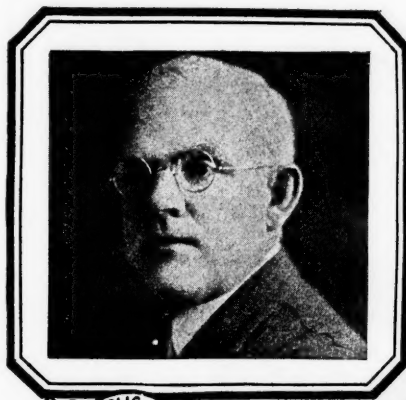


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Weekly }

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## The Trend of Prices

**H**AS the world entered upon a lower price level? Students of economics differ in their opinions. The dollar at the moment is buying somewhat more than it did in the recent past. Merchants apparently move their unsold stocks more readily when they lower the price tag than they do by holding to the old figures. Whether this is a matter of supply and demand of the moment or whether, with the drop that has taken place in the prices of commodities generally, it is an indication of a prolonged period of lower price levels, is a subject of interest.

A consulting engineer, thoroughly familiar with world conditions, writes the MANUFACTURERS RECORD as follows:

"My feeling is that improvement will come next year, but it will be slow. In a few years we may easily be making new tonnage records. They will be at relatively low prices and they will involve much new or improved product. We will certainly be in for a decade or so of low prices but they will encourage invention and economy—therefore new mills, new processes, new products.

"During the war the United States overbuilt every mill in every industry to supply the needs of temporarily displaced competitors. After the war the United States and every other country continued to overbuild in every line. Mines and mills in the world are probably fully 50 per cent over normal consumptive demand. If nothing new is built it might easily take ten years or more to catch up. But the man who waits to see even 75 per cent of all plant capacity employed will wait forever. Because what will happen, as it has happened several times in the past hundred years after similar periods of depression, is that when the new boom arrives it goes into new products. Just as steel displaced iron after 1873, so other products will displace existing ones in the next period of activity. There will be new mills making new products, which will figure best in the next period of growth, so though we are admittedly overbuilt, we may expect to see new construction in most lines within a year or two. But unless a new war intervenes to raise prices, the new construction will be intended to make new or better products, or to make old products more efficiently. One can never tell the exact type of the new progress, but it is safe to bet on something new and better right along now."

Whether low prices will prevail over a long period is open to debate. Unless there is a universal lowering of the wage scale, it is reasonable to assume that prices cannot continue low, since labor cost enters so largely into the cost of finished products. Payrolls have been cut through reduced operating time in many industries, yet relatively few large concerns have cut hourly rates for labor or reduced piece work rates. Large employers of labor, such as the Steel Corporation, are endeavoring to keep up the high

wage scale, and many maintain that high wages are to stay in this country.

In a discussion of price trends, the National Industrial Conference Board asserts that notwithstanding abundant statistical evidence to the contrary, the public in general is not aware of any conspicuous lowering of prices. It then presents figures showing that wholesale prices declined substantially between September 1929 and September 1930 in the United States and other countries.

### WHOLESALE PRICE DECLINE IN 12-MONTH PERIOD

Country	Per Cent
United States .....	13.6
Canada .....	15.3
Norway .....	8.8
Germany .....	11.1
France .....	12.3
Switzerland .....	13.5
Italy .....	14.3
Sweden .....	15.2
Denmark .....	16.0
Great Britain .....	19.4
The Netherlands .....	20.6

In the countries mentioned the fall of prices in the short space of one year was considerable, and six of these countries showed a greater decline than that experienced by the United States.

### United States Wholesale Prices, Index Numbers by Groups Base September, 1929=100

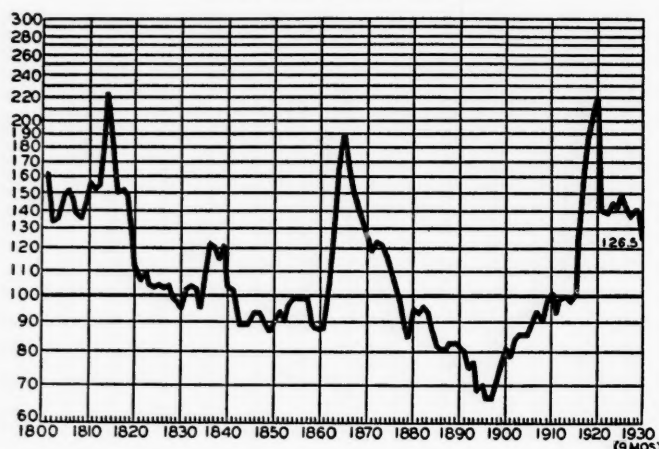
Group	1913	1923	Per Cent Decrease September, 1930, from September, 1929
All Commodities .....	71.6	103.2	86.4 13.6
I.			
Farm Products .....	67.1	92.5	80.0 20.0
Foods .....	62.2	89.8	86.4 13.6
Hides and Leather .....	61.5	94.0	89.4 10.6
Textile Products .....	61.5	119.5	81.1 18.9
Fuel and Lighting .....	75.6	120.0	94.1 5.9
Metals and Metal Products..	87.2	105.0	88.2 11.8
Building Materials .....	58.2	111.5	88.6 11.4
Chemicals and Drugs .....	85.4	107.7	92.2 7.8
House Furnishing Goods ...	58.0	112.2	98.2 1.8
Miscellaneous .....	114.0	122.0	85.3 14.7
II.			
Raw Materials .....	69.6	99.6	83.0 17.0
Semi-manufactured Articles..	67.7	121.5	78.4 21.6
Finished Products .....	71.5	102.3	89.5 10.5
III.			
Non-agricultural Commodities	72.6	106.1	88.3 11.7
All Commodities other than Farm Products and Foods *		112.5	89.3 10.7

(\* Not available.)

In reviewing the course of wholesale prices by years since 1801 by the familiar device of index

numbers, the Conference Board shows that price levels in more recent times have fluctuated greatly. Price levels as compared with 1913, for instance,

WHOLESALE PRICES UNITED STATES.  
Index Numbers—Base 1913=100.



rose to extremely high points in war periods and immediately afterward dropped almost as suddenly. The drop from the peak produced by the War of 1812 was temporarily arrested in 1816, and that which followed the peak of prices of the Civil War period was temporarily arrested in 1871. We are reminded that the drop after the World War seemed to come to an end in 1921, but a downward course was not so soon resumed and for eight years until the end of 1929 prices appeared to fluctuate slightly at a new level. The Conference Board after a close analysis of all factors, asserts that only the future can tell whether the drop in past months is merely an exaggerated fluctuation of the type which occurred during the period 1922-1929, or whether it is the first step in a further drop of prices comparable to that which took place after 1819 and after 1873.

### A New Secretary of Labor

THE President's selection for Secretary of Labor is refreshing on two lines: First, as removing that important department from the implied domination of the American Federation of Labor and, second, as furnishing for the first time an American-born citizen for that post.

Under the law, "the Secretary of Labor is charged with the duty of fostering, promoting and developing the welfare of the wage earners of the United States." In no place is "organized labor" mentioned. The Conciliation Service of the department "is charged with the duty of using its good offices to seek peaceful settlement in any trade dispute between employers and employees in industry"—not between employers and unions, but between employers and employees, whether or not unionized.

It is a matter of gratification that the President met the challenge as he did.

### The Railroad Problem

ONE of the pressing problems of the day is the situation in which the railroads of the country find themselves. In an illuminating discussion of the subject on another page of this issue Mark W. Potter says "proper service in the public interest is imperiled." There is no one better qualified than Mr. Potter to discuss this important matter. His service to the country for many years as a member of the Interstate Commerce Commission is well known. His experience as president of the Clinchfield Railroad and later as one of the receivers of the St. Paul Railroad equips him with knowledge of the railroads' difficulties. He points out that there is "altogether too much emphasis placed everywhere on the importance of lower rates. \* \* \* It makes no difference what the commodity is, or what the condition of the shipper is, shippers are never benefited by rates which embarrass the carrier."

We think our readers will find Mr. Potter's lucid discussion of many of the questions involved of striking interest. He approaches the matter from a standpoint of sanity and clear thinking that render his words worthy of the greatest respect. He does not hesitate to say "government ownership should not be the corrective, but it may be the only way out, unless different views are taken of carrier responsibility." He further adds "a Will Hays or a Judge Landis of railways would do wonders."

He points out, in contravention of the claims that highways are not taxed and that inland waterways are not taxed, that as a matter of fact the people are paying taxes on all these facilities except railways, "the situation respecting them is exactly as it would be if they were all taxed as a first step, the same as railroads are, and if then tax expenditures, so-called, were repaid to these facilities out of a fund raised through taxation from the people generally."

We commend this article to the earnest study and thought of business men. It is not fair nor necessary, economically, to build up one facility at the expense of another. A suggestion is definitely made by Mr. Potter that would seem to open a way out for the railroads. Any demand for government ownership, or likewise for the slowing down of the development of our inland waterways should be condemned.

### Important Florida Decision

THE Supreme Court of the State of Florida recently handed down a decision in connection with litigation regarding the city of Sanford's default on bond indebtedness. The opinion represents the views of all the Justices of the Court. Importance attaches to this decision as it indicates the view held by the Court toward the indebtedness of various communities which have been behind in their payments. Press comment indicates that the effect on sentiment in



Florida will be important, as it will help to remove the ideas held in some places that bondholders should share in the losses to which communities have been subject.

The opinion follows:

"To contend that Sanford's unfortunate plight is a product of boom times is beside the question when it, like many other communities in Florida, is struggling from its indiscretions committed during that period. Boom time was a period when Sanford, like other municipalities, was obsessed with metropolitan visions, and he who refused to encourage the obsession was indicted for being a knocker, a reactionary and opposed to progress.

"It was a time when municipalities and citizens alike were actuated by reckless extravagance that spread like a virus throughout every class of the social order. Municipal and personal behavior were in the teeth of every known law of economics, and so completely did the mania for gathering where we had not sowed and spending the increment overcome us that our very conduct impressed the stigma of contempt upon the old-time virtues of thrift, integrity, toil and moderation.

"Suddenly this golden flood of prosperity collapsed, and now, with our obligations out and due, with the greatest potential future of any people in any age, there is in this court a plea of too poor to pay. We are aware of no law that would permit one in business to interpose such a plea because of his misfortune, even though his venture proved a disastrous failure. Certainly no municipality can afford to live by a lower standard of civic virtue than is required of its citizens."

### South Leads in Rural Health Work

"THE South leads in the United States in rural health work," says the News Letter of the University of North Carolina. The nine specially progressive Southern states are Alabama, Maryland, South Carolina, Louisiana, North Carolina, Tennessee, Kentucky, Mississippi and West Virginia. They rank among the first 11 states in the country in the efficacy of their rural health work. The other two in this 11 are Ohio and Washington.

The value of such work as it affects the life, health and happiness of our people cannot be computed in terms of dollars and cents. But an estimate can be made of the national economic loss in wage earnings and in other items incident to sickness which could be prevented by reasonably efficient county health service, and it has been placed at a million dollars a year.

This county health work is to be encouraged in the South where it now exerts a great influence in maintaining this section as probably the most healthful area of its size in the world. Figures in the MANUFACTURERS RECORD recently showed the South to have the lowest death rate of any of the great areas of our country.

In many ways the South has corrected conditions detrimental to good health. Lowlands have been drained, streams have been cleansed of pollution and other waters have been opened to natural purification. County health service has contributed largely to this achievement.

### Promoting New Uses for Cotton

SOME years ago the Savannah Sugar Refining Corporation began to use cotton bags as containers for sugar, in place of jute bagging, and this practise has been followed by other refineries, resulting in the utilization of thousands of bales of cotton for this purpose. Reference to this development has been made previously in these columns.

Recently we have received from B. O. Sprague, president of the Savannah corporation, a communication written on cotton fabric letter "paper." Mr. Sprague expresses his deep interest in the promotion of wider uses for cotton, and his realization that the prosperity of the South is dependent in no small measure on this product, its chief agricultural raw material.

Editorially commenting on the use of cotton fabric for letter paper, the Savannah Morning News, under the heading, "Cotton Paper Usage," says:

"That the Savannah Sugar Refinery is the first business concern outside of the cotton trade in Savannah fully to grasp the importance of using cotton paper for its letter heads is of interest. The Savannah refinery recently bought some 200,000 cotton cloth letterheads and henceforth this type of more permanent paper will be used in their correspondence.

"Quite a large number of Southern business establishments have gone to the use of cotton paper for their stationery. It provides an added use for the product of the Southern fields."

As a novel advertisement of the staple, this new use of cotton fabric is valuable. What the South most needs, however, is to educate its own people to the necessity for wider utilization of cotton products. Perhaps the greatest offenders in the use of products competing with cotton are the growers who continue to use jute bagging for wrapping cotton bales. Why should the growers expect those who can choose from a variety of fabrics to favor cotton products when these very growers are so neglectful of their own opportunities to increase the use of cotton?

Importations of jute for the calendar year 1929 ran as follows:

	Pounds	Value
Jute, unmanufactured (duty free) ..	114,698,000	\$8,058,127
Jute, butts, unmanufactured (duty free) .....	60,940,000	3,213,815
Jute waste bagging and waste sack cloth (duty free) .....	33,587,097	622,158
Jute burlap (duty) .....	643,645,327	77,377,353
Jute fabrics (duty) .....	2,426,904	722,492
Jute bags or sacks (duty) .....	32,198,288	3,169,597
Other jute manufactures (duty) ...		969,000
	887,495,616	\$94,132,542

Thus, from this one direction, cotton has to meet the competition of more than 887,000,000 pounds of jute imports valued at nearly \$100,000,000. We do not mean to imply that cotton could be used always in place of jute, but we do say that, especially for the bagging of cotton, and sugar and probably for other products also, cotton fabrics could be used to the advantage of the entire South. Jute manufactured in British India and other foreign countries helps to give employment to the people of those countries, and every pound of jute we import helps to reduce the opportunity for employment in this country.

# Solutions Suggested for The Problems of the Railroads

By MARK W. POTTER, New York City



Mark W. Potter

*The following article on the railroad situation was written by Mark W. Potter at the special request of the MANUFACTURERS RECORD. In a letter accompanying his article Mr. Potter says:*

*"I have no desire to function as a reformer. Nevertheless, I am perfectly willing that any of my views should be known to anyone, anywhere and at any time."*

*The MANUFACTURERS RECORD considers itself fortunate in being able to present the ideas of such an authority as Mr. Potter. His views on the present situation with reference to railroads in the United States should be given serious thought by the business men of America. As former president of the Carolina, Clinchfield & Ohio Railroad, and later as a member of the Interstate Commerce Commission, Mr. Potter has been able to render service of great value to the country, and is now in a position to bring to bear the results of his experience in the solution of a difficult problem. He was one of the receivers of the St. Paul Railroad a few years ago and is a prominent attorney of New York City.—Editor MANUFACTURERS RECORD.*

THE railroads are indeed in a real "plight"—the worst they ever have been in. To say this is to say that proper service in the public interest is imperiled. Looked at from one point of view and judged by ordinary rate-making standards, some rates seemingly are too high, while others are too low. The worst thing about the present situation is the general tendency toward lower rates, without regard to what they mean, or whether lower rates, in a true sense, serve the shippers using them.

There is altogether too much emphasis placed everywhere on the importance of lower rates. There is almost universal failure among shippers to realize that, wherever there is distress, higher rates are what shippers need. It makes no difference what the commodity is, or what the condition of the shipper is, shippers are never benefited by rates which embarrass the carrier. No one is ever entitled to be served by anyone on a basis which does not fairly pay the renderer of the service for the service rendered. No one is ever benefited by crippling the servant through failure to pay fully and fairly for the service which he renders. If overnight all rates everywhere could be boosted to a point which would sustain all carriers and pay a fair return on the values used in the transportation service, it would go a great way to overcome the present so-called depression, by stimulating purchases.

I say this notwithstanding the fact

that I believe carriers themselves are to blame for a lot of their adversity. Nor does the fact that a general rate increase would be beneficial mean that such an increase should be made. Carrier earnings are continually being reduced by whittling and reducing rates here and there and everywhere, in order that a particular carrier may accomplish something that seems to serve its interest and notwithstanding the fact that such whittling by the individual carrier inflicts on other carriers shocking damage in amounts far greater than the benefit which the whittling carrier can obtain.

The recent article by President Clift, of the Central of Georgia Railway, in the MANUFACTURERS RECORD, was most interesting. He points out what carriers are doing to overcome the decrease of passenger traffic. He refers to shortened schedules, improved equipment, added trains, better conveniences, comforts and safety devices, the modern steel vestibule coach with steam heat, electric light, electric fans, screened windows, observation and lounge cars, individual bedroom cars and the like. I wonder whether the carriers are going too far in some of these respects. Perhaps, a more frequent, faster, cheaper plain coach service should be considered. During recent times, passenger train receipts have reduced something like \$400,000,000 a year. Nevertheless, all of the things that Mr. Clift referred to are being done and passenger train car-

miles have actually shown an increase.

The law permits the carriers to do a lot they are not doing. For illustration, look at the passenger service between Chicago and St. Louis. To meet the competition of the buses and to maintain their individual prestige, all the carriers are running de luxe trains daily and losing a lot of money doing it. They are losing more and more traffic every day. The plainest, simplest thing that everybody sees is that the Chicago and St. Louis traffic should be pooled and service probably reduced 50 or 75 per cent, with benefit to all carriers and with perfectly adequate service for passengers. Such conditions are known to exist in one form or another all over the United States, and to this fact is largely due railway distress.

There is a lot of talk, and proper talk, about the competition of the buses operating over highways maintained by taxes, and about non-taxed inland waterways, the Panama Canal competition and the traffic that, in competition, is going to the unregulated pipe lines. I suppose carriers want to increase the cost to shippers of operating the highways, inland waterways and the Panama Canal and either prevent the competition of pipe lines or increase the cost of pipe line transportation. They can talk probably until doomsday without accomplishing much. If the people of the United States as a whole everywhere want to pay a part of the cost of transportation by highway, or by inland



waterway, or through the Canal by taxing people generally, they have a perfect right to do it, and there is a lot that can be said in favor of it. Personally, I think time would be better spent if the endeavor were not to boost up the cost to shippers on other forms of transportation, but to put the railroads in a position where they could enjoy a system something like that which applies to the water transportation.

Pipe lines are natural and logical developments of transportation facilities. They buy their rights of way and pay their construction costs and I presume they pay taxes. Perhaps they are not regulated enough and it may be that some restraint on the construction of unnecessary lines should be imposed. The mere fact that they can conduct certain forms of transportation at lower cost than is possible by railways does not justify regulation to prevent competition. The cheapest form of transportation is what is needed. If railways in their competition with pipe lines are embarrassed by regulation, the thing to do is to lessen railway regulation. It is not clear, however, that if railways were regulated only to the extent that pipe lines are, they would be any better off. They must face efficient pipe line competition.

It is said lightly that highways are not taxed, and that inland waterways are not taxed. This is not true at all. They are all taxed, in an economic sense. The situation respecting them is exactly as it would be if they were all taxed as a first step, the same as railroads are, and if then that tax expenditures, so-called, were repaid to these facilities out of a fund raised through taxation from the people generally. The people are paying taxes on all of these facilities, except railways. In not paying taxes directly on these facilities, their taxes on other things are correspondingly greater; so, they are really paying the tax, just the same. Let the system respecting inland waterways, etc., and highways remain as it is, but bring about equality and fair dealing by providing for the carriers moneys for their taxes and maintenance, just as moneys are being so provided for the other facilities. (I would say in passing that, to meet the competition through the Canal and all water facilities generally, carriers should be allowed, without the reduction of intermediate rates, to make such rates as they please on the through traffic, so long as the rates they made contributed something to net earnings.)

Equity and fair dealing could be accomplished very readily. Shippers everywhere are interested in having transportation provided and maintained everywhere. Big business in one section of the country is made possible by the

fact that if it wants to it can ship everywhere. Most ton-miles are made on foreign lines. The shippers in the East properly could be charged with a part of maintaining and paying taxes on the lines in the West. The Supreme Court of the United States says that this is the scheme of the Transportation Act. Every carrier which is essential, and the abandonment of which the law will not permit, has just as much right as any other carrier to have its maintenance and taxes provided for in some way. This part of the carrier's burden, which is imposed on the carrier in the interest of shippers everywhere in order that they may have transportation everywhere, should be paid not by the particular shippers who are shipping over a particular route today, but by all shippers everywhere. A highway gasoline tax makes every automobilist in the state pay a part of maintaining the highways throughout the state, no matter where he uses his particular car. The principle of this gasoline tax if applied to the railways would help mightily. It could be done by setting aside a small percentage of rate receipts to be used for maintenance and taxes everywhere.

Whatever the facility used, transportation costs divide into two classes. First, there is the cost of creating, maintaining and paying taxes on the facility. Second, there is the cost of operating the facility. In the case of ordinary highways, the cost of operation is paid by the user. The highways are operated by horses, automobiles, trucks, buses, etc. The user pays the operating costs by paying for his horse feed, his gasoline and his repairs. The gasoline tax takes care of maintenance in large part, the balance is paid by other taxes. As the highways are maintained for all present and future users, all are properly charged with a part of the cost of maintenance and all directly or indirectly share in the payment of taxes. The gasoline tax works towards this end. The situation respecting the railroads is the same and should be treated in the same manner. They are maintained for all shippers everywhere and all should participate in carrying the maintenance and tax burden. The shippers at a particular time who use the service should pay the cost of handling current traffic, just as the motorist pays the cost of operating his car.

Right now, the thing to do, in my judgment, is to make a nation-wide rate increase, the proceeds of which would be pooled and used to pay taxes and maintenance. I think that something like one-half of the cost of maintenance of ways and structures is made necessary by the effect of time and weather as distinguished from service. Perhaps, half of taxes could be said to be constant and not subject to fluctuation of

gross earnings. That portion of maintenance and taxes affected by service should be charged to traffic currently moving. The portion due to time and weather, etc., should be taken care of by all shippers everywhere for whom the carriers are maintained, and without regard to whether or not they use a particular carrier at a particular time.

Fifty per cent of expenses for maintenance of ways and structures and 50 per cent of taxes would amount to something like \$600,000,000 a year, or about 10 per cent of operating revenues. A rate increase of 10 per cent, the proceeds of which would be pooled and distributed among carriers, in the proportions of their average expenditures for the last five years for maintenance and taxes, would probably remove most of the carrier distress; make all carriers strong; aid towards a fair return; restore carrier credit so that they could go on and meet all public needs, and in the end so improve their facilities that rates everywhere could be reduced. Such a system would make it easier to maintain low rates on agricultural products, etc., and would promote continuity of work for an expanding number of railway employees.

A basic fundamental principle and an essential of fair dealing is that all shippers on all and every part of a national railway system, which is maintained for all, should pay a fair part, measured by the proportions in which they ship, of the cost of maintaining that system. This is the principle on which the Federal aid highway laws rest. It is applied to waterways, and to highways where the gasoline tax is insufficient. It should be applied to railway carriers.

It is questionable whether a flat, unpooled increase should be made. Some carriers are in distress, while others are not. The problem is to remove the distress. If, in making a proper rate adjustment, it has been deemed essential in the public interest to make low rates on particular commodities, such as agricultural products, and the effect has been to embarrass particular carriers, the aim should be to overcome the embarrassment of those carriers. Suppose, under such circumstances, receipts of particular carriers have been reduced \$50,000,000 a year. Obviously, the problem is to get that \$50,000,000 back for those carriers. The railways, however, in asking for a flat increase everywhere, although they based their request on the particular distress, would be asking that shippers pay not \$50,000,000 but several hundred million dollars, most of which would go to carriers who did not deserve or need the increase. It would not be strange if such a proposition were received coldly by regulating authorities. There is a lot of force in the



thought that the distress of a deserving carrier should not be converted into an asset of an undeserving carrier.

The movies and baseball are teaching valuable lessons. A Will Hays or a Judge Landis of railways would do wonders. The rivalries of individual ambitions and conflicts are not having happy results. Government ownership should not be the corrective, but it may be the only way out, unless different views are taken of carrier responsibility. If matters go on as they are now going, I would not be surprised if within five years the carriers generally were clamoring for Government ownership, at least of rights of way and all fixed property, to be operated by operating companies. That would put the maintenance and tax burden on shippers generally where it belongs.

There is great responsibility resting

on the Congress, and on regulatory authorities, and at the moment, and in the absence of constructive suggestions from the carriers, the greatest responsibility is on their officials.

### \$5,000,000 Hospital Unit

Jackson, Miss.—The Mississippi Building Commission, R. L. Brown, secretary, opens bids January 2 for another unit of a \$5,000,000 State Hospital for the Insane in Rankin County, near Jackson. This unit, estimated to cost about \$700,000, will embrace seven cottages for chronic cases, two buildings for epileptics, two for disturbed patients and one for a patients' main dining room and kitchen. N. W. Overstreet, Jackson, is the architect.

### May Erect \$1,250,000 Building

Louisville, Ky.—A site at Fifth street and Broadway has been purchased by the Louisville Gas and Electric Co. for a new office building estimated to cost \$1,250,000, but definite plans have not yet been made. Three department heads were recently appointed by T. B. Wilson, vice-president and general manager, to make a survey of the organization's requirements in order to determine the amount of floor space necessary.

### \$600,000 Apartments

St. Louis, Mo.—A syndicate headed by Sam Hamburg, Jr., has purchased sites in the Blue Ridge Terrace section of the Moorlands here and plans to erect 10 four-unit apartments at a cost of approximately \$60,000 each.

## Farm Outlook Report for South

As a basis on which Southern farmers may plan next season's crop and livestock production "to improve their incomes," an agricultural outlook report has been prepared by the Department of Agriculture and representatives of 11 Southern States. State reports dealing more with local conditions will be issued by agricultural colleges and extension services of the States of the South.

Both domestic and foreign demand for Southern farm products are expected to improve next year as compared with the present situation. Especially in the textile industry, the present low level of prices of raw materials is expected to stimulate buying. While the credit outlook for Southern farmers is not considered dazzling, the supply of credit for the marketing of the 1931 crops may be expected to be ample, although maybe not through the usual channels. The outstanding cause of the price decline in cotton during the last 18 months is attributed by the report to the world-wide business depression which reduced the demand for cotton. If the present flue-cured tobacco acreage is maintained next year, prices to growers are expected to average lower than this year's prices because stocks will be increased and the rate of increase in cigarette consumption has slowed down.

Southern farmers are cautioned in the report against overexpansion of truck crops. Although in recent years

the market has been expanded to the full 12 months, the supply appears to have kept ahead of consumer demand. The grower of commercial truck crops in 1931 "must expect to find a continuance of this upward trend in acreage with its attendant lowering of returns per acre," the report says. If potato growers in the Southern States carry out their intention to increase acreage 10 to 15 per cent next year, resulting production would put potato prices lower than those of last spring. Sweet potato acreage in the South is usually increased following a year of low cotton prices, and a sharp increase in acreage planted to the moist-fleshed type of sweet potatoes is expected in the Cotton Belt. Peanut growers are cautioned in the report against excessive acreage increases, because peanut prices so far show little improvement as compared with the low 1929 prices.

Feed supplies in the South for the 1930-31 season are the smallest in recent years. Grain and hay crops in the adjoining States from which the South usually obtains supplies to supplement local production are also much below average. There will be no shortage of seeds for planting in the South next year. There is a favorable outlook for the peach industry during the next five years and conditions seem to warrant expansion of acreage in some sections, while adequate returns to growers of oranges and grapefruit will depend on a continuation of the upward trend in per capita demand. Strawberry acreages appear to be in line with the needs of the country, and rice

acreage in the South can probably be maintained at last year's figure without depressing prices below the 1930-31 level. There is not much encouragement in the egg market until present storage stocks are reduced materially, nor is it expected that the poultry market will show much improvement for the remainder of 1930, says the report. Increase in the commercial output of dairy products in the South may be expected to continue. The general trend in hog numbers in the South has been downward for years, but prospects favor a gradual improvement in the beef cattle situation during 1931. The sheep industry must either reduce production or bring production costs into line with returns obtainable from a market supply of lambs greatly in excess of that of recent years.

Considering all alternatives, says the report, cotton will continue to be the keystone of Southern agriculture, unless continued industrialization of Southern economic life and the consequent increase in population and in the food requirements of home markets should bring about a greater diversification of agriculture. Although the expansion of cotton acreage may be temporarily checked by present unfavorable price conditions, an increase in acreage may be expected during the next 10 years if low cost production methods are developed through mechanization, is the conclusion.

The complete report has been printed as Miscellaneous Publication No. 102-MP, obtainable from the Department of Agriculture, Washington, D. C.

# \$856,000,000 of Construction Contracts

Aggregate Awards in South for Eleven Months Are  
\$70,000,000 in Excess of Total for Entire Year of 1929

By

CARROLL E. WILLIAMS

**C**ONTRACTS awarded during the first eleven months of 1930 in the 16 Southern states for all classes of buildings, industrial, construction and engineering projects had a total valuation of \$856,865,000, according to a compilation of reports published in the DAILY CONSTRUCTION BULLETIN and in the construction columns of the MANUFACTURERS RECORD. This figure exceeds by \$70,000,000 the value of contracts for similar projects for which contracts were let during the whole of 1929. Moreover, it is within \$37,000,000 of the highest yearly totals of record—1925 and 1926, when the valuation of construction awards in the South amounted to over \$894,000,000.

Awards in November had a valuation exceeding \$42,000,000, an increase of about \$7,500,000 over the total for November 1929. While the value of awards last month shows a sharp decline from October, it should be considered that the former represents a four-week period and the latter a five-week period, and the average weekly total of awards for the two months was around \$13,000,000, indicating very clearly the steadily-maintained pace of Southern construction.

Particular encouragement as to the future outlook is to be gained from a consideration of the \$110,000,000 total, representing projects to be let to contract on which initial announcements were made last month. This total compares with \$98,600,000, representing the valuation of proposed projects, initially reported in October. Thus, in two months projected building and construction projects in the Southern states called for the expenditure of more than \$200,000,000. There is thus assured a big carry-over into 1931, for many of these projects are still in the plan stage and it will be some time before specifications can be finished, bids called for and contracts let. Meanwhile, bids will be opened on scores of important undertakings this month, and a notable volume of road and bridge work will be placed under contract before the close of the year.

At the November elections large bond issues were approved in many sections of the South for state, county, district,

and municipal improvements. The proceeds from these bond issues, which will be marketed during the coming months, will go to finance a variety of building and construction projects. Louisiana voters authorized the issuance of \$1,000,000 airport and \$1,000,000 market bonds for New Orleans, approved a \$75,000,000 bond issue for roads and bridges as well as \$5,000,000 for a state capitol building. Baltimore voted \$16,000,000 bonds, including \$10,000,000 for harbor improvements, \$2,500,000 for an airport, \$2,000,000 for bridges and paving and \$1,500,000 for schools. Important bond elections scheduled for the near future include: San Antonio, Tex., \$1,750,000 for schools; Brazoria County, Tex., \$3,264,000 for roads and bridges; Oklahoma City, \$8,800,000 for city hall, viaduct, sewers, water mains, municipal auditorium, parks, fire stations, municipal garage, etc.; Duval County, Fla., \$4,000,000 for bridge, El Paso County, Tex., \$750,000 for hospital, and Kansas

City, Mo., \$37,000,000 for an extensive municipal improvement program.

There was a further increase in residential construction in November, compared with preceding months. Awards for individual projects involving the expenditure of \$10,000 each and up, for this class of work, had a total valuation of \$2,364,000 for the four-week period, compared with \$2,581,000 covering dwelling awards in the five weeks of October. Dwelling construction has lagged appreciably in recent months and the October and November residential awards are particularly significant, therefore, as indicating the forward trend. While awards for road and bridge construction fell off sharply last month as compared with October figures, big increases were noted in awards for school buildings, sewer, drainage and waterworks projects. In November the valuation of school contracts let exceeded \$8,285,000, compared with the October total of \$3,727,000. Last month sewer contracts call for an expenditure of \$5,295,000, compared with \$3,376,500, representing sewer contracts placed in October. Store buildings for which awards were made last month have a valuation of \$859,000, compared with \$447,000 covering like construction in the preceding month. Awards for bank and office buildings aggregated \$1,100,000 in November, or nearly four times the October total of \$345,000 for similar structures.

## Noteworthy Industrial Expansion Under Way

**ANNOUNCEMENTS** were made last month of a diversity of new industrial enterprises in all parts of the South. Moreover, established plants are erecting additions, installing new machinery in the place of obsolete equipment and generally revamping layouts with a view to facilitating production, and getting ready for an upswing in the next few months. In the past week numerous plants in scattered sections of the South have added to their forces, while still others have announced they will begin full time operations January 1.

The Missouri Pacific Railroad Co. proposes a 2,500,000-bushel elevator at

### SOUTHERN ACTIVITY IN BUILDING AND INDUSTRY, NOVEMBER, 1930.

	Contracts Awarded	Contracts Proposed
Apartment Houses and Hotels .....	\$2,561,500	\$937,000
Association and Fraternal .....	259,500	864,000
Bank and Office Buildings .....	1,100,000	3,025,000
Church Buildings ..... City, County, Government and State Buildings .....	965,000	1,030,500
Dwellings .....	1,734,500	4,804,500
Miscellaneous .....	2,364,500	520,500
Roads .....	10,156,000	53,541,000
School Buildings .....	8,485,500	30,520,000
Sewers, Drainage, Waterworks .....	8,285,500	4,244,500
Store Buildings .....	5,295,500	9,981,500
	859,000	535,000
<b>Total .....</b>	<b>\$42,066,500</b>	<b>\$110,003,500</b>
<b>November, 1929.....</b>	<b>\$34,691,500</b>	
<b>November, 1928.....</b>	<b>75,383,000</b>	
<b>November, 1927.....</b>	<b>50,604,500</b>	
<b>November, 1926.....</b>	<b>41,876,000</b>	

### 11 MONTH TOTALS, 1930.

January .....	\$39,149,000
February .....	75,340,500
March .....	69,753,000
April .....	52,242,500
May .....	75,023,500
June .....	226,168,500
July .....	103,549,500
August .....	61,175,000
September .....	46,738,500
October .....	65,658,500
November .....	42,066,500

**Total for 11 months.** \$856,865,000  
**1929 (11 months)...** \$743,681,000



Kansas City. Contracts have been let for units of a big steel plant at Boncar, W. Va., estimated to cost \$3,000,000, for a subsidiary of the Union Carbide and Carbon Co., New York. The Tennessee Cereal Co., Nashville, awarded contracts for a new plant. The Linda Baking Co., St. Louis, completed a \$500,000 ice cream cone plant. The Mississippi Clay Co. proposes a pottery plant at Charleston, Miss. Progress is reported on preliminary construction work in connection with erection of a \$3,000,000 superphosphate plant at Tampa, Fla., for the American Cyanamid Co., New York. The United States Aluminum Co., a subsidiary of the Aluminum Company of America, is pushing construction on a new group of plant buildings at Alcoa, Tenn. The Tennessee Eastman Corp., which recently completed a \$2,000,000 cellulose acetate plant at Kingsport, Tenn., has started work on two additional plant buildings. E. I. du Pont de Nemours & Co. is expanding its Mineral Springs, Ala., explosive works. The du Pont Cellophane Co. has completed a \$4,000,000 plant at Amthill, near Richmond, Va. R. S. Finney, New York, and associates, propose developing kaolin deposits at Dry Branch, Ga. The Pennsylvania Railroad will recall 600 employees to be engaged in construction of steel cars to cost \$5,000,000.

#### *Expansion of Power Facilities An Index of South's Growth*

A COMPREHENSIVE REVIEW of the power industry in the South, presented in the MANUFACTURERS RECORD of November 27, clearly indicates the big volume of work in this line under way and proposed. Even a cursory examination of the programs of the individual companies in various sections of the territory from Maryland to Texas suffices to indicate forcefully the faith of the power executives and capitalists in the future prosperity and development of the section. It is apparent that power companies will be ready to meet all needs when business turns the corner. In fact, the demand for power for both industrial and domestic consumption in the South continues to mount with such regularity that by the time new plants are completed the full capacity of generating units must be utilized to meet requirements. The serious drought has affected hydro plant operations with the result that modern new steam electric generating plants in many sections have been called upon to carry a major portion of the South's power load. It is quite significant, too, that numerous hydro plants erected in recent years are being modernized so that they may compete more favorably with the very efficient new steam units. The height of

dams is being increased to provide additional head; new type water wheels, highly efficient, as contrasted with obsolete equipment, are being installed, and so on.

Extension of the elaborate natural gas pipeline network through the South and Southwest to remote industrial centers is making it possible for many public utility steam-electric generating plants to utilize this fuel in place of coal and oil. Therefore, extensions of main pipelines have been made especially to serve power plants, and some companies have constructed privately owned lines where nearness to gas fields has made such expenditures wise. Availability of this fuel is also having a marked influence on utilization of Diesel and gas engines. Installation of both types as prime movers has shown a marked increase recently.

As industrial decentralization and agricultural diversification have been markedly influenced in the South and Southwest because of the interconnected superpower system, so both of these movements will be further stimulated as natural gas is made available to many sections rich in natural resources, but heretofore undeveloped. Truly, electric power and gas are the twin giants of a new industrial age now dawning. Great changes are being worked in the South's economic, industrial and social life by these forces.

Before the first of the year natural gas is to be available in Washington, D. C. A 20-inch line is being constructed from Coatesville, Pa., to the District of Columbia, being tied-in with main pipelines from Pennsylvania fields. Next year construction will be pushed on a line from Pikeville, Ky., through West Virginia and Virginia to tie-in with the line from Pennsylvania at a point near Rockville, Md. It is said that laterals from this new line will be built to serve Roanoke and Lynchburg, Va. The Columbia Gas & Electric interests are financing these projects, and it is understood the company through its interconnected gas system will serve Philadelphia, Wilmington, New York and many other centers on the Atlantic Seaboard.

In addition to work under way on major pipeline systems for transportation of gasoline, crude oil and natural gas, important extensions are proposed to existing systems and several new lines are discussed, the most important being a gas line from Kentucky fields to serve Detroit. An interesting feature in connection with the building of gasoline transport lines is that where they touch important inland waterways costly storage plants will be established and distribution of products will be facilitated up and down these rivers by put-

ting into service privately owned tank barges and towboats. This is in addition to the original plans of the companies for locating bulk storing and distributing depots at intervals along the line from which tank-truck fleets will distribute products within a radius of 25 miles. The railroads are faced, therefore, with serious competition. Gasoline heretofore distributed by tank cars will now be moved by underground lines and motor vehicles; coal for fuel is being displaced by natural gas. On the other hand chemists have perfected the liquefaction of natural gas, which is now available beyond the pipelines for domestic consumers as individuals or communities, or for industrial plants, and for enriching artificial gas. It is transported in tank cars or small steel containers. Distributing systems are now being laid in communities of from 300 to 500 houses and natural gas is available from tank cars, the plant equipment being very simple and comparatively inexpensive.

#### *Diversity of Building Projects in All Parts of the South*

SPACE LIMITATIONS preclude the summarization, even in briefest manner of new building projects recently let to contract and under way in the South. Whereas government, state and municipal building projects have got under way rather slowly, private enterprise has seized the opportunity to undertake essential construction at a time when so many factors facilitate building work. The list of such private projects includes practically every type of structure, for all kinds of services.

For instance, in and around Murfreesboro, Tenn., \$2,000,000 will have been expended this year for building and construction projects, including a woolen mill, hosiery plant, building supply yard, dry cleaning plant, a creamery and utilities improvements.

Oklahoma City has a \$45,000,000 development program under way. Building permits for 36 consecutive months have exceeded \$1,000,000, the monthly average for the past five years exceeding \$1,750,000. This fast growing city's new projects include a \$1,000,000 hotel addition, a 26-story hotel, a 6-story furniture store, several motor car garages, a 2200-acre residential development, a city market building, a 10-story combination theater and office structure, numerous churches, apartment houses, a diversity of factories, \$4,000,000 for dwelling construction, \$2,500,000 for a freight depot, viaduct and trackage, new power plant, additional steel railway and motor bus facilities, 32-story bank and office building, 31-story office building, \$700,000 Y. W. C. A., \$1,100,000 addition to the Federal building. These suffice to



indicate the ramifications of the expansion program of this Oklahoma metropolis, which typifies the spirit of the Southwest, and reveals some of the opportunities for the sale of materials, equipment and services in the upbuilding of this vast rich region of our country.

Port Arthur, Texas, is expending \$3,000,000 in a municipal construction program. The work includes \$1,750,000 for a concrete wall and levee, a \$250,000 pleasure pier and bridge, paving, water and sewer extensions. Galveston is expending \$2,000,000 for schools. A \$1,000,000, 21-story building has been completed for the Sterling interests at Houston. Barnes Hospital, associated with the Washington University School of Medicine, St. Louis, is going forward with the development of a \$20,000,000 group of hospital buildings. A \$5,000,000, 16-story merchandise mart is being erected by the Terminal Railroad Association, St. Louis. At Hampton Roads, Va., the first unit of a \$3,000,000 building program at the Hampton Roads Naval Training Station is under way.

Building permits issued in Memphis in the first 10 months of this year totaled more than \$9,400,000, an increase of \$2,000,000 over the figure for the corresponding period of 1929. Included is the \$750,000 William Len Hotel, a \$1,500,000 postoffice, a water front boulevard and other developments.

Waverly Taylor, Inc., Washington, D. C., proposes a \$750,000 residential development. Contracts will be let this month for the \$2,400,000 Enoch Pratt Free Library in Baltimore. Architect has been selected for a \$575,000 Federal building in Jacksonville at the Terminal Station, and \$2,000,000 will be expended for an uptown Federal building. Robert A. McCormick and associates, of Chicago, propose a \$1,000,000 residential development at Boynton, Fla. William W. Emmart has been selected to prepare plans for the first unit of a \$600,000 Home for Dependents of Masons to be erected near Baltimore. Contract has been let for the \$1,250,000 Theodore Roosevelt High School in Washington. Initial work has been started on a \$7,000,000 railway station project in Houston. A \$6,300,000 downtown Union Station is projected in New Orleans.

The Morris Plan Company of Virginia will erect a \$500,000 building in Richmond. Thos. Mullan, Baltimore builder, proposes a \$1,000,000, 11-story apartment structure. The Snell Isle properties at St. Petersburg, Fla., are to be developed at a cost of \$750,000. An \$865,000 Public Health Service building will be erected in Washington. An 11-story, \$575,000 Medical Arts Building will be erected in Richmond.

## \$3,000,000 HOTEL

### Contract Awarded for 26-Story Oklahoma City Structure

Oklahoma City, Okla.—Foundation and structural plans for the new Skirvin Tower Hotel to be erected here have been revised to carry a total of 36 stories, with a 75-foot steel beacon tower to top the elevator penthouse. The initial unit will be 26 stories, with basement and sub-basement, to cost approximately \$2,500,000, while the additional 10 stories, to be erected when conditions warrant, will increase the cost to about \$3,000,000. Buildings now on the site at Broadway and First street are expected to be removed soon after January 1, 1931, and the construction of the hotel started immediately thereafter, with a view to completion by January 1, 1932. General contract to erect the first unit has been awarded to Campbell & Price, Oklahoma City, who will also remove the buildings on the site. The Skirvin Tower and the present Skirvin Hotel will be connected by a double tunnel under Broadway. All machinery and employees' locker rooms will be installed in the sub-basement under the south half of the building, while the first basement will be used for a cafeteria. The first unit of the hotel

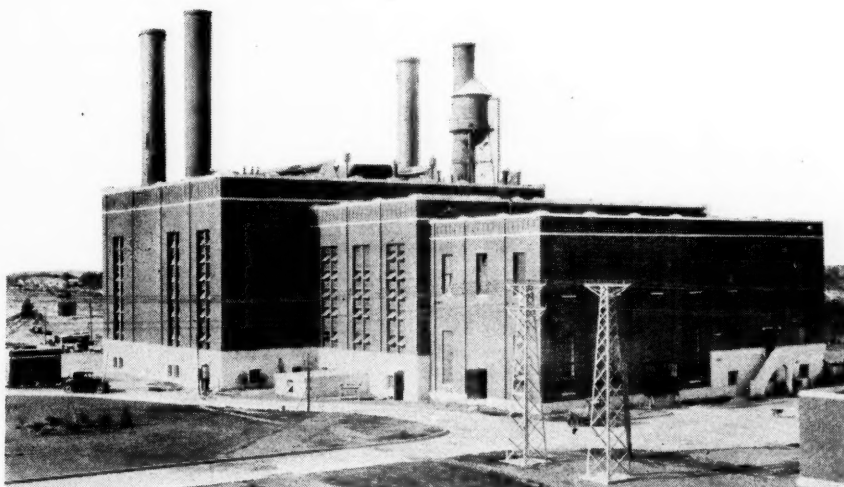
will contain 700 guest rooms and baths. Layton, Hicks & Forsythe, Oklahoma City, are the architects, the project to be under the management of the Skirvin Operating Co., of which O. W. Skirvin is vice president. Financial backers include J. W. Colvin, Houston, Tex., and Mrs. George Mesta, New York.

### Schools for Textile Mill Employees

In addition to giving its unqualified support to the 69 night schools for textile employees conducted in 33 Georgia mills during the past year, the Cotton Manufacturers' Association of Georgia has prepared a bulletin explaining the purpose, method of operation and financing of such classes. Special stress is laid on the fact that mills may secure the cooperation of State boards for vocational education not only in financing, but also in laying out the courses of instruction and in conducting the classes.

The Guarantee Finance Corporation, Richmond, Va., is promoting plans for the construction of a \$350,000 Kent automatic garage at 9th and Franklin streets in that city, on a site 100.8 by 146.6 feet, Marcellus E. Wright, Richmond, architect.

## Expansion Program of West Texas Utilities



During 1930 the West Texas Utilities Co., Abilene, Texas, finished and put into operation at San Angelo the Nasworthy Dam, which impounds 10,500 acre-feet of water; installed a new 15,000-kilowatt steam turbine unit in the Concho generating station, raising the capacity of the system to approximately 100,000 horsepower; built several hundred miles of high tension transmission lines; purchased distribution facilities and properties in seven towns; extended service to 11 communities; built a 17-ton ice plant, seven local office buildings, two ice sales stations, five commercial cold storage vaults, and a meter and transformer repair shop; installed and rebuilt water systems at Dumas and Stratford, placing 100,000-gallon storage tanks in each town.

## Growing Use of Mechanical Conveyors in the South

Southern Refinery Operations, Lumbering, Construction,  
Mining and Terminal Developments, Manufacturing  
and Power Plants Using Modern Conveying Equipment

By

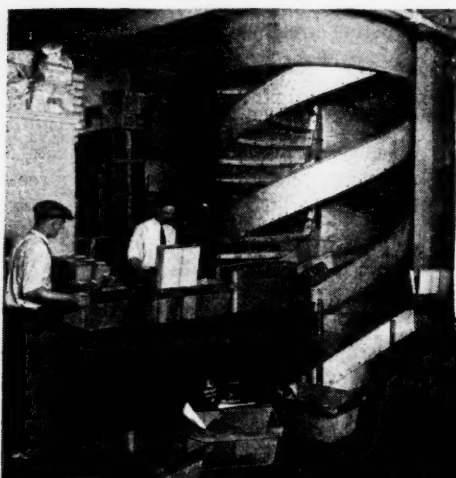
S. A. LAUVER

**W**HEN mechanical conveyors are mentioned, some persons think perhaps of that type of conveyor which forms an integral part in the operations of the automotive industry. Yet that industry is by no means the only one in which conveyors can be used and are

used to advantage and profit. Throughout the South, many plants are employing mechanical methods of handling materials and in this manner are secur-

ing a more efficient production, resulting in increased output and in a reduction in cost of the finished product.

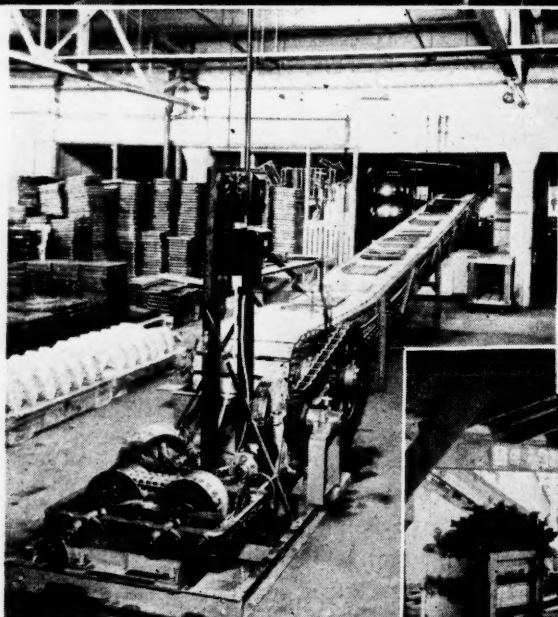
The uses to which the mechanical conveyor is applied range all the way



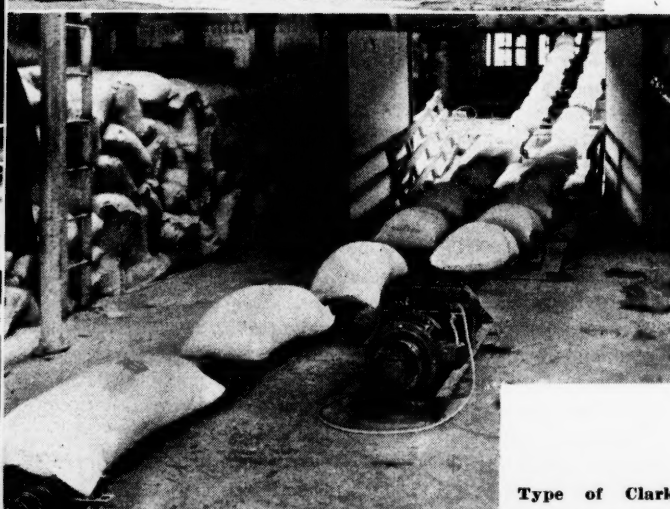
A double-blade spiral chute lowers merchandise between various floors of the Chapman Drug Co., in Knoxville, Tenn. A standard pneumatic tube system dispatches messages between central desk and various departments.



General conveyors in St. Louis plant of General Material Company can handle 300 tons of aggregate material an hour.



Webster slat conveyor, moving stove parts in plant of Standard Gas and Equipment Corporation, Baltimore.



Type of Clark TwinVeyor used at Norfolk, Va., by Norfolk and Western Railway to transfer flour from boat to warehouse.



Mathews roller conveyor carrying crates of celery into refrigerator cars at plant in Sarasota, Fla.



from handling small packages in commercial establishments to the moving of large quantities of bulk materials. This wide scope of usefulness includes the handling of coal at the mines, yards and in power plant operation; storage and reclamation of building materials, such as sand, gravel, crushed stone and cement; loading and unloading ore and miscellaneous freight in terminal operation; delivering cotton bales to and from the compresses and warehouses; moving ice during and after manufacture; handling fuel and ashes; conveying materials used during construction activities. Conveyors also are used in the South by bakeries, oil refineries, glass manufacturers, textile mills and many other industries. One Southern sawmill has a mechanical method of handling wood chips which are burned in its furnaces to provide the steam necessary for operating purposes.

An excellent example of what the mechanical conveyor will do to accelerate cargo handling is the Robins system installed in the \$10,000,000 state docks at Mobile, Ala. Bulk material is unloaded from boats by hoisting towers, or from railroad cars by means of rotary car dumpers, and delivered to a system of belt conveyors, one unit of which is a trunk conveyor 1000 feet in length and with a capacity of 600 tons of coal or its equivalent per hour. In the loading of ships, a shuttle conveyor makes possible delivery of the material direct to bunker hatches without interference with the ship's rigging.

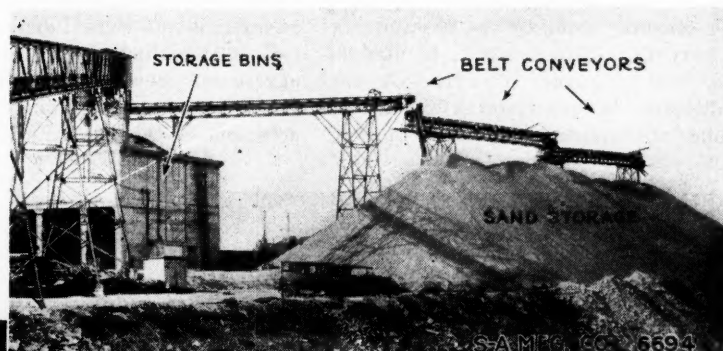
At Charleston, W. Va., the Libbey-Owens Sheet Glass Co. has shown how a hitherto laborious process may be simplified, by installing a Barber-Greene portable belt conveyor to carry the glass remaining from manufacture out of the furnace, instead of allowing it to harden, requiring removal by handpick and shovel. The system is so arranged that

when molten glass strikes the belt it is quenched by a stream of water, causing granulation of the glass which is stored and later remelted. At the plant of the Schulze Bakery in Kansas City, Mo., a Louden Super-Track system carries products from the work bench into the proof boxes, where the dough is allowed to rise, to the loading ends of the ovens and away from the discharge ends to the wrapping department. In Baltimore, a Webster slat conveyor, 26 inches wide and 147 feet long, carries stove parts from the annealing process to storage room on another floor at the plant of

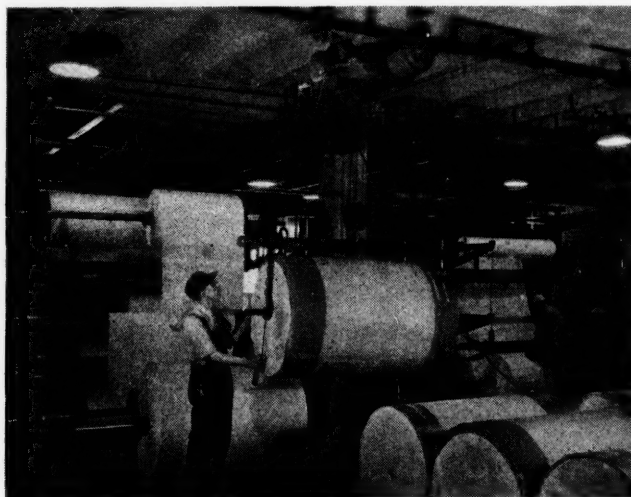
the Standard Gas and Equipment Corporation.

Conveyors of Barber-Greene manufacture have demonstrated effectiveness in construction operations in Texas, where the Frank Parrott Construction Co., Dallas, employed three sets of equipment to pour concrete for the Corinth street viaduct, and at Houston another conveyor was used in building the Port City Compress, eliminating the necessity for erecting scaffolds, hoists and elevated runways. The Caton Sand Co., Baltimore, handles gravel and sand by this same method. Three Stephens-Adamson

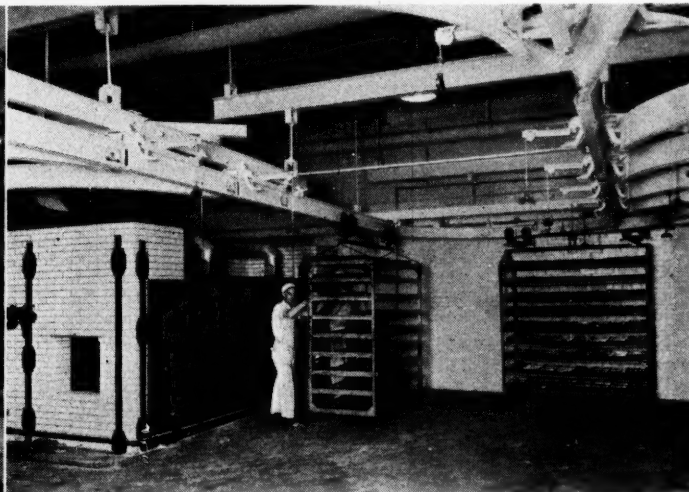
Stevens-Adamson belt conveyor installed by Mississippi Sand and Material Co., St. Louis, Mo.



Conveyor of Portable Machinery Company loading truck at sand pit.



Cleveland Tramrail conveyor in plant of the United States Daily, Washington, D. C.



Louden overhead conveyor system as employed in a bakery in Kansas City, Mo.



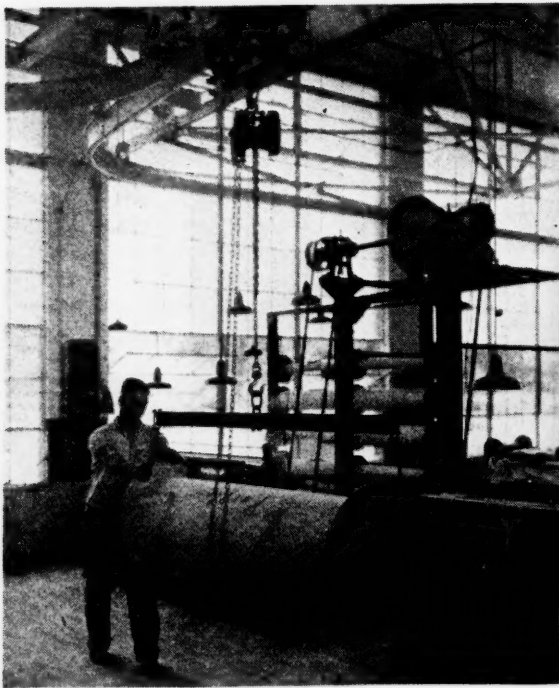
belt conveyors serve a like purpose at the St. Louis, Mo., plant of the Mississippi Sand & Material Co.

A conveyor made by the Portable Machinery Co., Clifton, N. J., is used by the Whiting-Turner Construction Co., Baltimore, in construction operations, while the General Material Co., St.

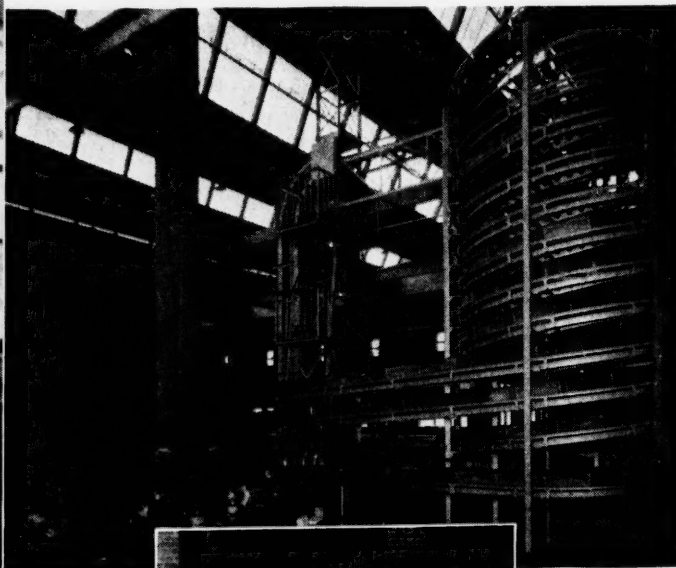
Louis, producer of ready-mixed concrete, utilizes General conveyors throughout its operations, including a screw type for reclaiming bulk cement and a tunnel belt type for handling stone, gravel and sand aggregate. Several Northern standard portable conveyors were used during construction of the San Antonio municipal

auditorium to elevate the excavated material into an enclosure within the foundation walls and thus fill in to the proper grade line.

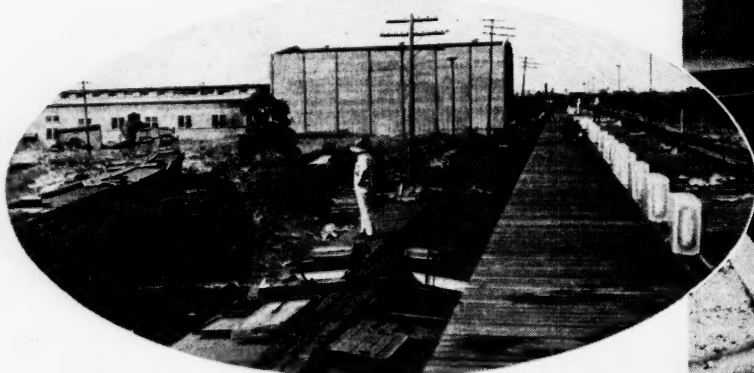
A Bartlett and Snow conveying system installed in North Carolina at the Mount Holly plant of the Duke Power Co. might be cited as typical of the manner in



One of six Amco triple blade roller conveyors serving the plant of Anheuser-Busch, Inc., St. Louis, Mo.



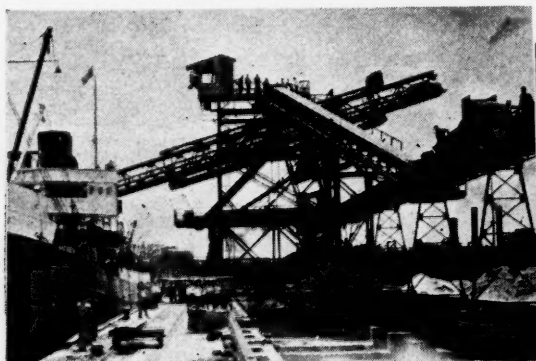
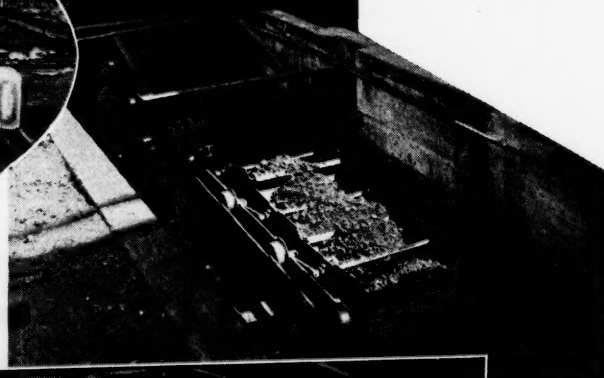
Louden Super-Track system at Stillwater Worsted Mills, Augusta Springs, Va.



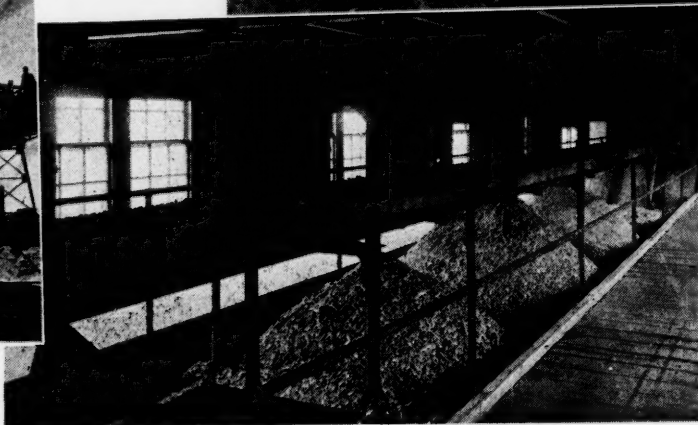
Gifford-Wood conveyors for icing refrigerator cars at Haines City plant of Florida Power and Light Co.



Rex pivoted chain belt bucket conveyor handling coke in an oil refinery at Houston, Texas.



Robins inclined conveyor on movable tower loads bulk material into hatches at Alabama State Docks, Mobile.



In a Southern sawmill Link Belt conveyors carry chips to the boiler where they are burned to create steam for plant operation.

which large power plants handle their fuel without resorting to manual labor. Discharged onto two conveyors which carry it to the crusher, the coal is carried by other conveyors to the storage field or to the boiler house bunkers. This system can handle 700 tons an hour and has provision for a third line of conveyors which would bring the capacity to

1100 tons an hour. What is known as the Hydro Jet, a system of conveying ashes produced by the Allen-Sherman-Hoff Co., is also installed in the Mt. Holly plant. In addition to this installation and several others in large Maryland industrial power plants, the Allen-Sherman-Hoff Co., manufacturer of the system, has similar equipment in opera-

tion at the Cannon Mills, Kannapolis, N. C., the Champion Fibre plant, Canton, N. C., the Gorgas plant of the Alabama Power Co., the Reeves Avenue steam station of the Virginia Electric & Power Corporation, Norfolk, the John H. Heald plant at Lynchburg and at the Mead Fibre plant, Kingsport, Tenn. An installation of Hahn steam-jet conveyors

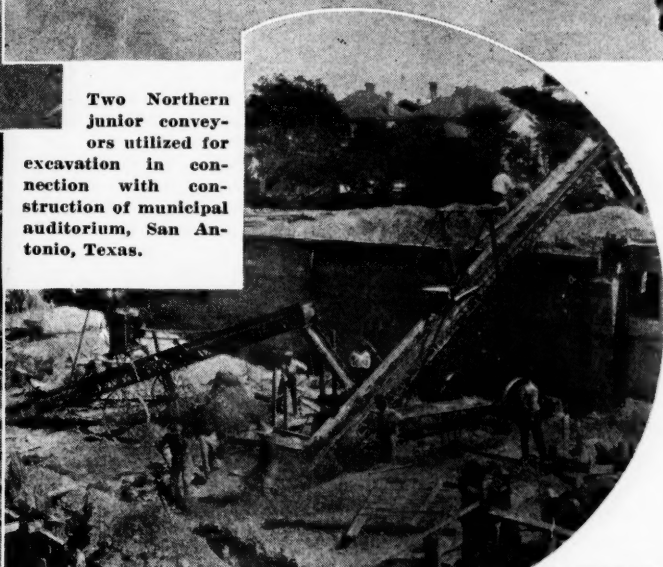
Logan conveyors handle products of Baton Rouge plant of the Standard Oil Company of Louisiana.



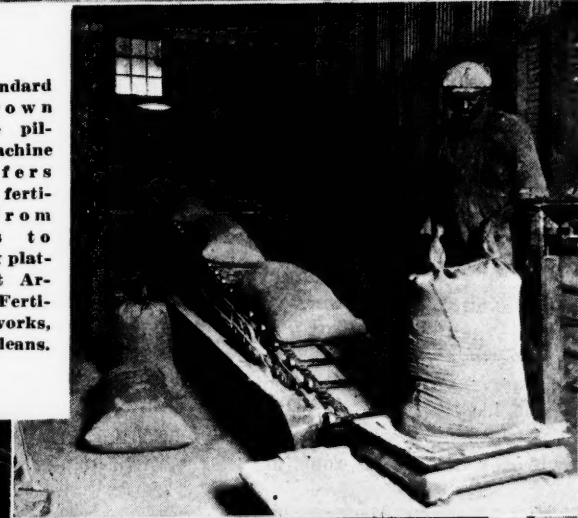
This Barber-Greene conveyor installed at the plant of the Libbey-Owens Sheet Glass Co., Charleston, W. Va., empties the furnaces of glass, eliminating the former laborious method of breaking out cold glass by pick and shovel.



Two Northern junior conveyors utilized for excavation in connection with construction of municipal auditorium, San Antonio, Texas.



A Standard or Brown portable piling machine transfers bags of fertilizer from scales to shipping platform at Armour Fertilizer works, New Orleans.

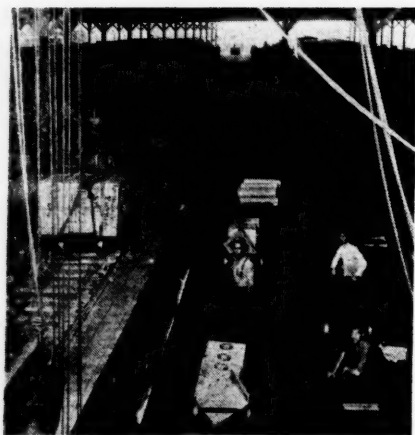


Link Belt conveyors expedite handling of packages for shipment in a Southern jobbing house.



Cleveland automatic dispatch carriers, 225 in number, operate in plant of the Manchester (Texas) Express Company.





Link Belt conveyor at Galveston, Texas, dock. For handling incoming freight.

handles the ashes from the powdered coal-fired boilers at the Quantico, Va., base of the United States Marines.

For lowering coal from the head house at mine level to the screening and sizing tipple in a valley 500 feet below, the

power motor; an interesting feature is the fact that after the belt has started and the load progressed down hill, the motor ceases functioning as a motor and acts as a generator to put current into the line and also as a brake to retard the conveyor and hold it to uniform speed. The Amigo Coal Co., Amigo, Va., has utilized a Barber-Greene portable conveyor as a tipple that can be lowered from a long permanent conveyor to within 12 inches of the gondola floors and thus eliminate the breakage usually attendant on such an operation.

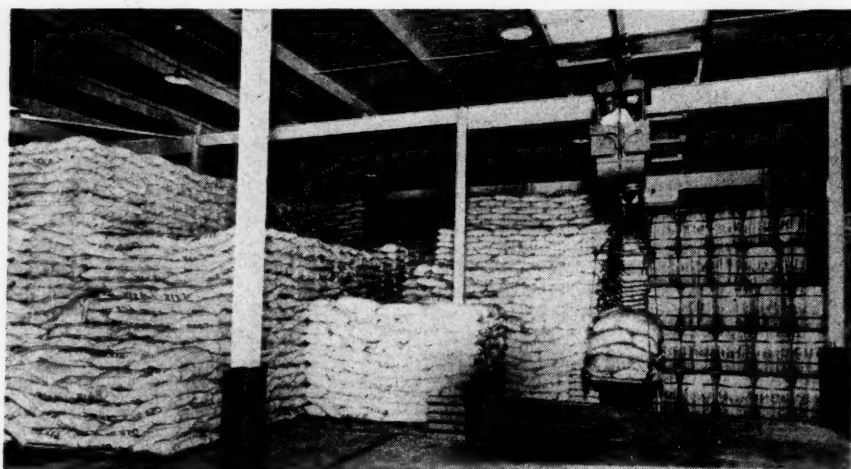
How the packer may take advantage of the conveyor is shown by the Mathews system installed in the celery packing plant of Bell Brothers at Sarasota, Fla. From the time celery is delivered in field crates to the shipping stage, the conveyor keeps the product steadily on its way. Gifford-Wood conveyors installed in the Miami plant of the Florida Power & Light Co. take ice both to and from the storage room, and at the Haines City

operations. Ice also is handled by the same kind of conveyors at the San Antonio, Texas, plant of the Southern Ice & Cold Storage Co., practically no manual labor being used in the procedure.

The Charlottesville Woolen Mills, Charlottesville, Va., utilizes the Loudon Super-Track system for conveying the dyeing solution in buckets to the mixers, and the Stillwater Worsted Mills, Augusta Springs, Va., uses the same kind of a system for handling worsted yarn. Blankets are elevated from the stock room to the upper floors by means of a Standard enclosed belt conveyor installed in the Spray, N. C., plant of the American Warehouse Co. A fire door at the conveyor opening protects the merchandise.

Raw cotton, also, is handled by conveyors, as typified by those installed in the plant of Crespi & Co., Galveston, Texas, where two Gifford-Wood conveyors, running in opposite directions, carry the cotton bales, trucks and stevedores to and from the second floor of the warehouse. Operating on a 15,000-foot rail system at the Manchester (Texas) Compress Company's plant are 225 automatic dispatch carriers manufactured by the Cleveland Electric Tramrail division of the Cleveland Crane & Engineering Co. Unattended, these carriers, each of which holds two bales by means of gravity hooks, deliver the bales to the compress, where they are released, and compressed bales are picked up and dispatched in the same automatic manner to the two floors of the storage warehouse.

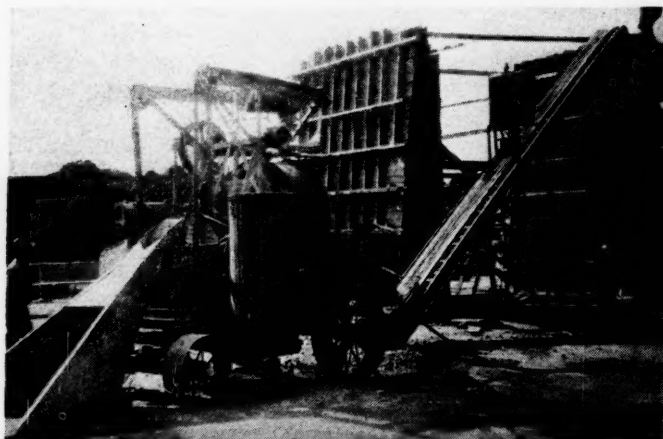
In the Baton Rouge plant of the Standard Oil Company of Louisiana are Logan conveyors which handle with equal facility the bulk oil drums, heavy grease cans and smaller filled and empty containers. Single alligator switch section roller conveyors each feed into sets of three or five storage conveyor lines. A Texas refinery of another company, in the Houston district, operates a system of Rex conveyors for handling the coke from the time it is brought to the company's



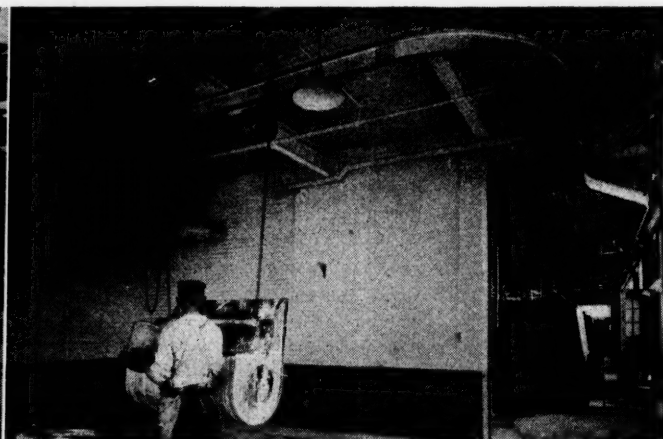
Cleveland Electric Tramrail System, with cab-controlled unit, in operation at Mississippi Warrior Terminal, Birmingham, Ala.

Hardy Coal Co., Isaban, W. Va., operates two Stephens-Adamson belt conveyors, 36 inches wide and 800 feet long. Each of these is driven by a 50-horse-

station of the same company an overhead conveyor carries the ice from the main storage building to the icing platform, where a chain conveyor facilitates



Conveyor made by the Portable Machinery Co., as used by the Whiting-Turner Construction Co., Baltimore



Loudon Super-Track conveyors transfer dyeing solution to mixers in plant of Charlottesville Woolen Mills, Charlottesville, Va.



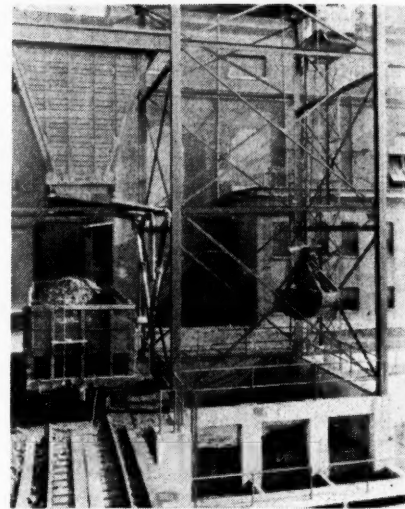
yards in railroad gondolas, through the various processes of separating, grading and crushing, and to the cars, or to the boiler house, where it is distributed to the boiler hoppers by a Rex scraper flight conveyor.

Barrels of molasses weighing from 700 to 1400 pounds are moved about on Amco reversible apron conveyors at the plant of the American Molasses Co., Wilmington, N. C. An interesting and extensive system of conveyors of this same manufacture is installed in the Bevo bottling plant of Anheuser-Busch, Inc., St. Louis. Six immense units of triple-bladed roller spiral conveyors handle the cases on their journey through this plant, which is understood to be the largest and most modern of its kind. The Goetz Brewing Co., at St. Joseph, Mo., uses Standard spiral chute and roller conveyors for this same purpose.

Freight is transferred at the Helena, Ark., terminal of the Mississippi-Warrior River service by means of Link-Belt conveyors, while at the Birmingham, Ala., terminal of the same line the service is performed by a cab-controlled Cleveland Tramrail unit which picks up the skids of commodities and carries them at the rate of 600 feet per minute. A Galveston, Texas, dock uses this type of carrier for a similar purpose and the Baton Rouge, La., docks utilize a Link-Belt truck haul in moving freight. Operating at the Norfolk, Va., piers of the Norfolk and Western Railway is a twelve-section installation of the Clark "TwinVeyor." In connection with this system, gasoline tractors bring trailers loaded with 100-pound bags of sugar and other commodities direct to conveyors, which carry the bags to the point where they are to be stored. Other examples of installations of this type of conveyor in the South are: In a Southern sawmill, which by this means handles the chips burned to produce steam for operating purposes; a cotton mill where bales of cotton are carried by a Link-Belt elevator and

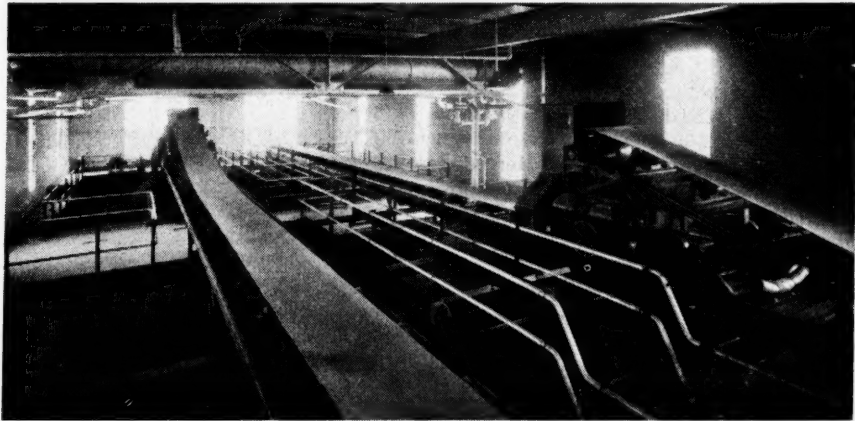
lowerator; another mill where the conveyors carry the bobbins in the dyeing room; and handling packages in a Southern jobbing house. In addition to a Standard double-blade spiral chute conveyor for handling merchandise, the Chapman Drug Co., Knoxville, Tenn., has installed a pneumatic tube system of this same manufacture for dispatching messages and orders.

Included among the many other mechanical conveyor installations in the South is a cab-controlled unit operating on the Cleveland Tramrail and lifting sheet metal by means of a large magnet, at the plant of the Automobile Rotary Lift Co., Memphis, Tenn. Hand-propelled units of Cleveland origin handle slabs of slate at the warehouse of the Virginia Alberene Corp., Schuyler, Va.; store and reclaim paper and place large rolls on the presses of the United States Daily at Washington, D. C.; pick up extractor baskets at the washing machines, transport them to the extractor and later to sorting benches at the plant of the Pal-



Allen-Sherman-Hoff system of conveying ashes in plant of Virginia Electric & Power Corp., at Norfolk.

wood and other materials at the Memphis Furniture Company's plant, Memphis, Tenn.; carrying bags of fertilizer



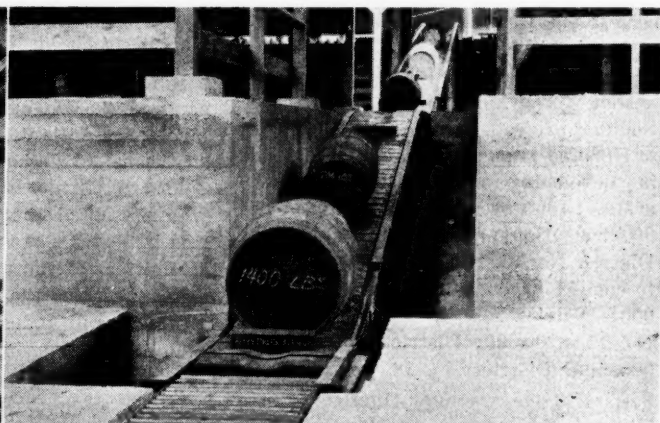
These C. O. Bartlett and Snow conveyors distribute coal into the bunkers of the Duke Power Company's River Bend steam station.

ace Laundry Co. in the same city. Standard conveyors are doing duty in elevating bundles of shingles at the state docks, Mobile, Ala.; elevating and lowering

at the Armour Fertilizer Works, New Orleans, and handling cartons of cigarettes for the American Tobacco Co. at Reidsville, N. C.



Two Gifford-Wood slot type conveyors mounted on double roller chains carry bale of cotton, truck and trucker from one floor to another at plant of Crespi & Co., Galveston.



This Amco reversible apron conveyor handles barrels and hog-heads of molasses weighing from 700 to 1400 pounds in plant of the American Molasses Co., Wilmington, N. C.

**\$35,000,000 FOR IRRIGATION****Big Projects Under Way in Lower Rio Grande Valley**

Brownsville, Tex. — Irrigation construction programs involving expenditures of \$35,000,000 are now being carried out in the Lower Rio Grande Valley of Texas, which will increase to approximately \$60,000,000 the value of irrigation facilities in the Valley, including Cameron, Hidalgo, Starr and Willacy counties. This will increase to about 800,000 acres the area of land in the several irrigation districts. It is estimated that more than \$8,000,000 will be expended in Cameron County; about \$18,575,000 in Hidalgo County; \$7,500,000 in Willacy County, and \$1,500,000 in Starr County, the latter on the irrigation system of Starr County District No. 1. The largest project in the Valley is Willacy County District No. 1, embracing 129,000 acres, which is now expending \$7,500,000 provided by a bond issue. The main construction item in this development is a 20-mile canal, 100 feet wide and 16 feet deep. The second project in size is the Cameron and Hidalgo District No. 9, including Mercedes and Weslaco, purchased about a year ago from the American Rio Grande Land and Irrigation Co., of Mercedes, at about \$3,000,000, and in which approximately \$875,000 is being expended for irrigation improvements. The district embraces about 100,000 acres. The third largest district is probably Hidalgo District No. 12 in Northern Hidalgo County, embracing 69,000 acres. Bonds in the amount of \$5,500,000 were voted to finance the project.

Two years ago the Pharr-San Juan-Alamo district voted \$3,500,000 of bonds to rebuild and improve its irrigation system and is now carrying out this program. La Ferria district is expending \$1,600,000 on a rebuilding and concreting program, while El Jardin district has completed extensive improvements, including lining canals with concrete. The Barreda tract of 10,000 acres is being divided into small divisions to be supplied by a \$1,000,000 irrigation system for which bonds were voted. Smaller projects include the Rutherford & Harding tract near San Benito which is developing an \$875,000 irrigation system; the Port Isabel Company's \$590,000 irrigation project near Brownsville, District No. 13, with other developments to cost \$1,500,000; District No. 12, \$125,000; District No. 13, \$500,000; District No. 15, \$200,000; District No. 17, \$225,000, and District No. 18, \$482,000.

In Hidalgo County, Hidalgo Control District No. 6 west of Mission is expending \$1,600,000; Hidalgo District No. 1, Edinburg, \$1,500,000; Donna, \$1,700,000 for rebuilding and concrete lining;

Progreso district, \$900,000 on system nearly completed and Engleman district, \$875,000. Much work is being done in districts Nos. 7 and 8 near Mission and a new district is being created in that section to be known as Hidalgo County Irrigation District No. 13, which plans to expend \$1,500,000.

**\$1,641,500 Federal Building**

Miami, Fla.—Bids will be opened December 18 in the office of Jas. A. Wetmore, Acting Supervising Architect, Treasury Department, Washington, to raise a reinforced concrete school building on the site of the proposed federal building here. Funds available for the new building, after the purchase of the site, amount to \$1,641,500. Plans call for a 3-story and basement building, 254 by 215 feet. Phineas Paist & Harold D. Stewart are the architects; L. Murry Dixon, associate architect; Maurice H. Connell, mechanical engineer, all of Miami, and Harvey Baxter, structural engineer, Coconut Grove, Fla.

**\$7,500,000 GOVERNMENT BUILDING****General Contract for House of Representatives Office Building Awarded**

Washington, D. C.—General contract has been formally awarded to the Consolidated Engineering Co., Inc., Baltimore, for the construction of the additional House of Representatives office building here for which Congress appropriated \$7,500,000. The contract price, \$5,270,000, does not include the cost of lighting fixtures, electric clocks, hardware, electric sub-station equipment, screens and other items. The building will be 10 stories, including basements, and will occupy a site of 90,000 square feet across the street from the present House office structure. It will have a granite base, white marble exterior, Alabama limestone interior and Indiana limestone courts. Plans were prepared by the Allied Architects of Washington, Inc., with G. A. Weschler, Washington, handling mechanical engineering details.

**Cotton Acreage Curtailment Suggested**

Cotton farmers are to be asked to pledge a reduction of 25 per cent in their 1931 crop acreage and bankers are urged to limit crop loans as an aid in bringing about a cut in next year's cotton crop. These are results of a meeting recently of Southern bankers in New Orleans. A resolution was passed saying that next year's planting must be reduced 25 per cent if the country is to be saved from the disaster of 5 or 6 cent cotton. The bankers were called to consider the "Garrett plan", but lacking specific authorization of their various organizations, they were unable to do more than give it general approval and urge the same limitation of acreage that it proposed.

During the next few weeks, it is announced, J. E. Garrett, president of the Texas State Bank and Trust Company of Corpus Christi, and organizer of the Southern Cotton Reduction Association, who presented the plans for consideration in New Orleans, will meet executive committees of the various state bankers' associations in the South and endeavor to secure full endorsement.

The Garrett plan, in brief, is as follows:

1. Cotton acreage to be reduced 25 per cent from the 1930 planting from 1931 to 1936.
2. The land so released to be put into

other agricultural production, making a sensible diversification possible.

3. The reduction to be forced by an agreement by banks not to finance any farmer if he plants more than the acreage in cotton established by this rule.

4. Reduction, however, not to be forced upon farmers who already are putting less than half their plantings in cotton. If farmers acquire more land in the coming years, their cotton planting is to be kept within the percentage now to be established.

Among those present at the meeting were William B. Machado, vice president of the Hibernia Bank and Trust Company of New Orleans, president of the Louisiana Bankers' Association; John H. Drakeford of the Bank of Tuskegee, president of the Alabama Bankers' Association; W. L. Glover of the Edisto National Bank of Orangeburg, S. C., president of the South Carolina Bankers' Association; Carter Sterling, vice president of the First National Bank of Jackson, Miss., and Arthur LaCour, field representative of the Farm Board.

Mr. Garrett suggested that as the influence of the Southern Cotton Reduction Association spreads, the organization will be able to attack such problems as the tariff on jute, by which new uses would be opened for cotton with the elimination of the jute imported from India—especially in heavy bagging.



## A Virginia Concrete-Mixing Plant

**R**EDY mixed concrete plants have been built in many parts of the South and others are being established or are under consideration. A typical example is the plant of the Ready Mixed Concrete Corporation, Richmond, Va., which recently supplied 5,000 cubic yards of concrete for use in construction of a huge new factory for the American Tobacco Company in that city.

The plant includes a 2-yard Ransome mixer, a Blaw-Knox inundator for measuring sand, Blaw-Knox scales for weighing the coarse aggregate and Blaw-Knox scales for weighing cement.

Cement is purchased in bulk, and stored in a large warehouse immediately adjoining the cement bin of the mixing plant. In this warehouse ten carloads or 2500 barrels of cement can be stored at one time. Fine and coarse aggregate storage bins with a capacity of 500 tons of sand and 1,000 tons of gravel are located below a trestle. Materials are received in bottom dump cars and unloaded from the trestle above the bins. Beneath the aggregate bins is an endless belt conveyor which delivers the aggregates to an elevator, which in turn carries the material to bins above the mixer. These bins have a capacity of 40 tons of sand, 30 tons of  $\frac{3}{4}$ -inch gravel, and 45 tons of  $1\frac{1}{2}$ -inch gravel.

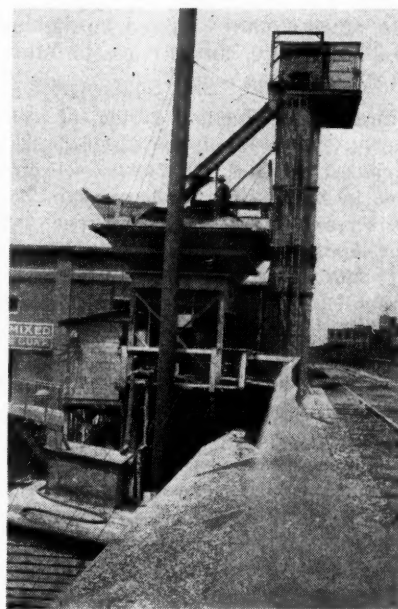
The company operates a fleet of trucks consisting of 18 2-yard and two 1-yard chassis, all equipped with Blaw-Knox agitator type bodies, in which it is said concrete of any consistency can be hauled without segregation.

The mixer is equipped with a batch meter so set that the mixer cannot be discharged until  $1\frac{1}{2}$  minutes after all materials have entered the drum and the aggregate door closed.

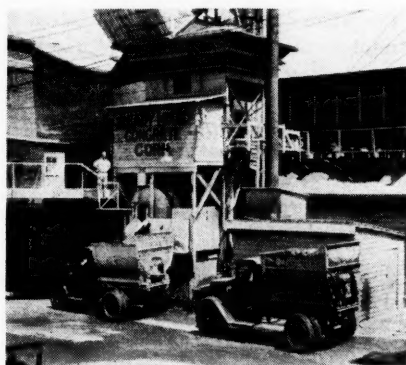
The plant has an hourly capacity of 60 cubic yards of concrete, and the truck fleet can haul about 70 cubic yards an hour when the haul is not more than three miles.

When the plant is operating at full capacity the following employees are engaged: One mixer operator; one operator for weighing cement; one operator for conveyor belts who opens various doors or gates, allowing sand and gravel to pass through on conveyor belts; one operator on top of the bins above the mixer to control the chutes to any of the three bins. From two to four laborers are employed in the cement warehouse to unload cement from cars to cement hopper which is located above cement scales, and these men are used also to unload cars of sand and gravel when necessary. As many as 22 seventy-

proximately 4 per cent. Since the plant first began operations Froehling & Robertson, testing engineers, have supervised production of all concrete. Cement



Cement, Sand and Gravel Are Shot Into the Mixer From the Hopper Directly Above It



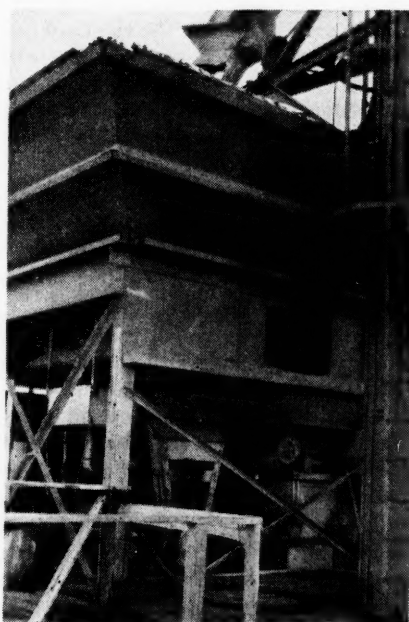
Trucks Loading Concrete at the Mixer

ton carloads of materials have been placed in the bins in a single day. Operation of the plant itself thus requires four white men, four laborers, a dispatcher, a bookkeeper, two mechanics and a superintendent. The company handles all repair work on plant and equipment, and it is necessary only to have special machine work done outside the plant. It is said that since the plant started operations it never has been suspended on account of a breakdown. Plant equipment and the fleet of trucks are constantly checked over; when any item needs attention it is repaired immediately, or after the plant closes down for the day.

An outstanding feature of the concrete manufactured by this plant is its uniformity, say the owners; cylinders which have been tested over the last two years show a maximum variation of 14 per cent, while the mean variation is ap-

proximately 4 per cent. Since the plant first began operations Froehling & Robertson, testing engineers, have supervised production of all concrete. Cement is carefully tested at the mill, and again retested for setting time and soundness when loaded into cars from the bin. On arrival at the plant an inspector verifies car seals and identifies the shipment, supervising the unloading. Thus responsibility for the quality and identity of the cement rests entirely with the engineers. Aggregates are inspected on delivery and unit weights are regularly checked. Screen tests are made at intervals, as well as tests for silt, organic matter, etc., whenever such tests are deemed necessary. Complete control is exercised at all times over the mix, which is kept in strict accord with the purchaser's specifications. Standard test cylinders are cast when required.

As each truck is loaded with ready mixed concrete from the plant, an inspector, representing the engineers, furnishes a certificate to the driver for delivery to the superintendent on the particular construction job for which the material is intended. This certificate gives all necessary information, including date and exact time truck leaves the plant, proportions of the mix, brand of materials, quantity of water used and slump. The method of inspection is described as being about as complete and thorough as it is possible to devise, with results to date uniformly satisfactory and successful.



Large Hopper From Which the Concrete Mixer Gets Its Materials



# Internal Revenue Receipts

The following excerpts from the annual report of the Commissioner of Internal Revenue, covering the fiscal year 1930, show there resulted, in the aggregate, a collection of \$3,040,145,733, compared with \$2,939,054,375 collected during the fiscal year 1929, an increase of \$101,091,357, or 3 per cent.

Income-tax collections during the fiscal year 1930 amounted to \$2,410,259,230, compared with \$2,331,274,428, collected from income during the fiscal year 1929, an increase of \$78,984,801, or 3 per cent. During the first six months of the fiscal year 1930 the collections embraced payments of the third and fourth installments of the tax due on incomes in the calendar year 1928, together with additional collections on assessments made for prior years, and amounted to \$1,184,602,927, compared with \$1,013,071,597, representing payments of income tax for the corresponding period of the fiscal year 1929—an increase of \$171,531,330, or 17 per cent. During the last six months of the fiscal year 1930 the collections embraced payments of the first and second installments of the tax due on incomes in the calendar year 1929, together with additional collections on assessments made for prior years, and amounted to \$1,225,656,302, compared with \$1,318,202,831, representing payments of income tax for the corresponding period of the fiscal year 1929, a decrease of \$92,546,528, or 7 per cent.

The tax collected from corporations during the fiscal year 1930 was at the rate of 11 per cent on incomes for the calendar year 1929 and 12 per cent on incomes for the calendar year 1928, while the tax collected from corporations during the fiscal year 1929 was at the rate of 12 per cent on incomes for the calendar year 1928 and 13½ per cent on incomes for the calendar year 1927.

In accord with provisions of the joint resolution of Congress, the normal income tax collected on individual returns during the last six months of the fiscal

year 1930 was at the rate of one-half of 1 per cent upon the first \$4000 of net taxable income, 2 per cent upon the next \$4000, and 4 per cent on the amount in excess of \$8000. During the first six months of the fiscal year 1930 the rates on normal income tax collected were 1½ per cent upon the first \$4000 of taxable income, 3 per cent upon the next \$4000, and 5 per cent on the amount in excess of \$8000. The surtax rates ranged from 1 per cent on net income in excess of \$10,000 to a maximum of 20 per cent on net incomes in excess of \$100,000. There was allowed against the tax for these years a credit of 25 per cent of the tax upon earned net incomes of \$30,000 or less.

Miscellaneous tax collections during the fiscal year 1930 amounted to \$629,886,502, as compared with \$607,779,946 collected during the fiscal year 1929, an increase of \$22,106,556, or 4 per cent. Principal increases in the revenue from miscellaneous taxes for the fiscal year 1930 were from tobacco manufactures and documentary stamp taxes.

The amount expended and obligated in administering the internal-revenue tax laws for the fiscal year 1930 was \$34,352,063, not including the amount expended for refunding taxes illegally or erroneously collected, which is not an administrative expense. Aggregate receipts of internal revenue were \$3,040,145,733, which makes the cost of operation for the fiscal year 1930, \$1.13 for each \$100 collected, as compared with \$1.17 for the fiscal year 1929.

The number of income tax returns examined and closed during the year was 2,297,351, of which 1,872,268 were filed by individuals and partnerships and 425,083 by corporations. This exceeds the production for the prior year by 98,656. The number of returns annually referred to Washington approximates 2,300,000. The field and Washington forces are better organized and procedure for audit management better established than heretofore. It may be reasonably concluded, therefore, says the report that the Income Tax Unit

can handle the audit of a current year's returns within a 12-month period.

The number of employees in the Internal Revenue Service on June 30, 1930 was 11,979 compared with 12,273 on June 30, 1929. The number of such employees in Washington on June 30, 1930 was 3,448 compared with 3,584 on June 30, 1929.

## To Reopen Industrial Plants

Waynesboro, Va.—The unemployment situation here seems to be rapidly improving. Two local industries announce that their working forces will be increased January 1, 1931. The Edison General Electric Co., R. H. Clemmer, local manager, will employ 75 more men January 1. On the same date the John H. Heald Extract Co., whose plant has been closed since April 30 of this year, will resume operations with a full force and 25 additional men will be added to the payroll, according to W. R. Moore, local manager. The resumption of operations at this plant is coincident with the opening up of the Heald plant at Damascus, Va., which has been closed.

## \$500,000 Tobacco Warehouses

Norfolk, Va.—H. B. Rogers, Inc., successor to the Southgate Forwarding & Storage Co., has approved plans for tobacco storage warehouses and other facilities involving an ultimate cost of \$500,000 or more. Three units of the warehouse project are under construction on the former Southgate properties adjoining the Norfolk Navy Yard on the Southern Branch of the Elizabeth River, and it is planned to erect 15 or 20 additional units of like character on the Norfolk side of the river, in Portsmouth and on the Berkley-South Norfolk side.

## Henry Harnischfeger Passes

The death of Henry Harnischfeger, president of the Harnischfeger Corporation, Milwaukee, marks the passing of a strong constructive influence in American industrial life. In his own immediate business circle, Mr. Harnischfeger was very largely instrumental in developing his concern into one of the leading industries supplying shovels, draglines, cranes, excavators, hoists and similar appliances for construction work, while beyond that circle his influence was exerted for sound development of business in other lines of activity and production.

### COLLECTIONS OF INTERNAL-REVENUE TAXES FOR FISCAL YEARS 1929 AND 1930

Source	1930	1929
Distilled spirits, including wines, cordials, etc....	\$11,695,267.67	\$12,776,728.46
Fermented liquors.....	3,930,995.94	3,623,393.97
Tobacco manufactures.....	450,339,060.50	434,444,543.21
Oleomargarine, process butter, etc.....	64,769,625.04	61,897,141.48
Estate and gift tax.....	46,966.66	5,956,295.57
Corporation capital stock and other special taxes..	2,664,652.34	5,711,550.04
Excise taxes including tax on automobiles, etc....	16,751,759.51	17,328,310.47
Admissions to theaters, etc., and club dues.....	77,728,669.90	64,173,530.84
Stamp taxes including playing cards.....		
Miscellaneous, including prohibition and narcotic taxes.....	1,959,505.33	1,868,452.75
Total receipts from miscellaneous taxes.....	629,886,502.89	607,779,946.79
Income taxes.....	2,410,259,230.28	2,331,274,428.64
Total receipts (all sources).....	\$3,040,145,733.17	\$2,939,054,375.43

# How Industry Is Overcoming Its Difficulties

AMERICAN industry is meeting the challenge of adversity, from which it will emerge with powers undiminished, declares the annual report of the Management Division of the American Society of Mechanical Engineers made before the Society's 51st annual meeting in New York last week. The business cycle was epitomized by dividing it into stages of confidence, doubt, fear and hope, and the report points out that the country is now well into the fourth stage of the cycle.

While much remains to be accomplished, it was said that the difficult conditions of 1930 have given renewed impetus to all divisions of management, but particularly to such divisions as marketing, stabilization, control of overhead, and in some cases to research.

"While all companies have been hard pressed," the report asserts, "some have retrenched more drastically than may have been necessary. Yet there have been many instances of foresight in which management has considered the longrun possibilities as well as the present circumstances. Nearly every company has had to find ways and means for securing satisfactory returns on its investment from a smaller volume of business, so that every measure has been tested as never before."

Total unemployment, the report adds, is variously estimated as between 2,500,000 and 4,500,000. Normal unemployment is from 750,000 to 1,500,000. Out of the experiments and discussions has, at least, come a general recognition that better stabilization is essential to the well-being of all mankind. Further:

"Technological unemployment has received much blame, but on the other hand data have emerged to indicate that it is not the major difficulty. If the facts are taken over a period of years, regardless of individual and temporary situations, improved machinery has made more work.

"Over a twenty-year period, employment has increased 40 per cent as compared with a population increase of 32 per cent. Since 1909 the income of wage earners in the United States has risen from \$30,000,000,000 a year to \$90,000,000,000."

A survey by Edwin S. Smith of Boston, director of research of the society's committee to study methods of reducing seasonal business slumps, indicates that 200 manufacturing companies have started some sort of plan to insure continuous employment.

The application of time and motion study is said to be spreading within the textile industry, especially in the South. But here and elsewhere, the engineers

comment, a better understanding is needed of the purposes and principles of job standardization. Some of the most progressive labor organizations have begun to insist upon the establishment of standards in their occupations. Over fifty companies now have cyclometers on their keystroke machines. The report continues:

"There has been a definite revival of interest in financial incentives. This is undoubtedly due to the fact that the high-wage principle has come to the front, and also somewhat to the mature stage which job standardization has now attained. The principle of high wages is standing the test of the depression better than many expected.

"Relatively few of the leading large companies have cut wages per piece or per hour. Some have even cut into reserves and dividends instead. They have, of course, shortened hours and frequently have divided work on a part-time basis. The very fact that so many leaders are deliberately trying to cut wages is enough to vindicate the statement that the high-wage theory has come to stay in this country.

"More than a million employees are said to hold stock amounting to \$1,500,000,000 at present market prices. A survey covering 146 major firms which have stock-ownership plans, indicates that relinquishments have been only slightly above what might be experienced in normal times. On the other hand, some companies are revising their plans so that a sudden drop in stock prices will be less likely to discourage their employees holding stock.

"Budgeting is being done more carefully so that all expenditures can be kept in proportion to accomplishments. The old formula, income minus costs equals profit or loss, has given way to the new formula, income minus profit equals allowable expense.

"The old practice of averaging profits and losses is rapidly passing. Each line is made to carry its own expense, and much simplification of size, style, and variety has consequently followed. Standard costs have spread until it is confidently asserted they can be used anywhere.

"The principles of scientific management have been widely applied to reduction of direct labor costs, but in that very process many companies have increased their overhead expenses actually and also proportionately to direct labor expense. Whether or not overhead can be radically decreased in dull times, it should always be controlled so that the management may know what

results may be expected for each dollar of overhead expenditure. Comparatively little has been done in this direction.

"Experiments in distribution have continued and some progress has perhaps been made, but it has not been sufficient to allow much specific discussion.

"Competition has forced manufacturers and dealers who would be successful to give increasing attention to the science of marketing, including the vagaries of consumer psychology. There has been increased appreciation of the fact that as a rule it is necessary to market those commodities which the consumer wants or can readily be brought to want, rather than those articles which the industrialist desires to manufacture for reasons of his own.

"The merchandising world has witnessed what actually amounts to a stampede of changing package designs. This has been due to the fact that the modern wrapper is now considered a show window. The old theory that it would be suicidal to change an established design has in many instances been thrown by the board with remarkably successful results. It has been clearly demonstrated that style has become of great significance to the merchandising of almost all commodities, and that quality without style will seldom lead to success.

"It is becoming increasingly evident that industrial management must grow along scientific lines rather than by development through the sheer force of circumstances. There is some indication that more companies than usual have had the courage to expand their plants during the depression; for example, the U. S. Steel Corporation, the Standard Oil Company of Indiana, and the Sinclair Consolidated Oil Company have all taken advantage of somewhat lower prices and have actually created extra jobs.

"In the past decade factories have produced 42 per cent more with 500,000 fewer employees. Railroads have handled seven per cent more with 250,000 fewer employees. Coal mines have produced 23 per cent more per employee with 100,000 fewer employees. Competition has placed increasing emphasis upon manufacturing economies as a source of profit, and hence there has been uninterrupted search for better and more effective ways of producing goods."

A survey was made by the Management Division in which its members were asked to indicate the relative importance to them of 14 different subdivisions, making in all what was considered the complete field of manufacturing management. The replies showed that administration was the chief interest of the management engineers, with marketing second. In the second and third choices, financial control was given preference over marketing.



# IRON, STEEL AND METAL MARKET

## Steel Prices a Point of Interest to the Trade

Pittsburgh, December 8.—[Special.]—The matter of prices has now become the chief point of interest in the steel trade, both because of recent price developments and because in the closing weeks of a year all buyers restrict their purchases as much as possible, and current buying and production give no definite indication as to tonnage in future.

At noon last Wednesday the Carnegie Steel Company announced 1.65c as its first-quarter price on bars, shapes and plates, while other large producers promptly announced their intended adherence to that basis. On November 10 Carnegie had announced 1.60c as its minimum "on current business", which left open the matter of first quarter. For months there had been occasional shading of whatever price was considered the open market on bars, and frequently deep cutting on plates and shapes. The open market had been quoted at 1.60c so that on paper the November 10 announcement represented no advance, but in practice it represented a substantial advance on prices actually realized on the whole tonnage, if adhered to. It appears that adherence has been general and that the market was stabilized at the figure. Large buyers of course do not actually expect to pay 1.65c on their first quarter deliveries, but announcement of a general market at 1.65c will encourage them to cover at 1.60c and no doubt the mills would be satisfied with that. The large buyers always expect something under the general market. Then a further advance could be made to 1.70c for second quarter and large buyers be let in at 1.65c for that quarter.

The influence of these developments in the heavy rolled products upon other finished steel products is problematical but interesting. In the old days, and including the upward movement of 1922-23 bars, shapes and plates as a group were the recognized leader of the steel market. Since then prices have declined irregularly, as between products, while occasional advances in bars, shapes and plates did not bring about real advances in the other products. The question now is whether these products will accept the leadership of bars, shapes and plates. That would no doubt occur if the producers were the same, but they are largely different. Prices on wire products have not been formally announced. Standard pipe has been quite steady right along, both before

and after the formal reduction of April 1, which was made not on account of cutting but to put pipe in line with other steel products. Rails are not an issue. They have not changed in price since the advance of eight years ago. It appears that recently some railroads doubted whether the price would hold indefinitely but that they have become convinced it will, as a result of which there is likely to be more rail buying than of late. The seasonal buying movement has been very sluggish, with no more than a third as much tonnage ordered as at this date a year ago and scarcely half as much as two years ago.

Steel ingot production has declined slightly, averaging slightly under 40 per cent last week. Some further decreases may occur to the end of the year, seasonally, while there can scarcely be any doubt that there will be a marked upturn beginning immediately after January 1. All precedents indicate that very strongly. The fact that there is a business depression does not signify in this connection, for it has already made its full impress upon steel demand. Apart from the matter of seasonal upturn, many authorities now feel that business has just about completed its recession, so that its next turn would be upward, and in that case there would be a double influence in the direction of greater steel tonnage.

The only really active line in steel consumption now is fabricated structural. Lettings reported last week were light but some preceding weeks had been above the average for the year.

## Quietness Continues to Rule the Metals

New York, December 8.—[Special.]—The metals markets are rather quiet and price trends are not clearly defined. The custom smelter price of copper reached 11½c per pound early in the week as against 10½c a week before, but dealers later began offering the red metal at 11¼c and the undertone was less firm. Zinc kept dipping in price until it reached 4.05c per pound, East St. Louis, when it turned quickly up to 4.10c. Lead is still unchanged at 5.10c per pound, New York, and 4.95c, East St. Louis. Tin prices do not vary much from 26 cents per pound.

The advance in steel prices announced on Wednesday was regarded as a constructive feature throughout the metal industry. By some it was regarded as an indication that industry has turned

the corner, though it must be recognized that advances in first quarter steel prices are a usual development at this time of the year.

Among the minor metals silver has been subject to the most price change, dipping to 34½c per ounce early this week, whereas it had been hovering at around 36 cents for the past several weeks. The price is 7½c per pound above the low point of all time reached the past summer. Quicksilver has been unchanged at \$107 per flask of 76 pounds. Antimony is the same at slightly over 7c per pound, duty paid.

Selling of copper has been rather light, as would be expected from the fact that producers and consumers had previously come together on needs of the latter for many weeks into the future. Export sales were better than for the preceding two weeks, though less than normal at a daily average of about 750 tons.

When the delegates to the world copper curtailment conference at New York reached home in Europe there was a flurry of European buying because of optimistic reports of these delegates. They stated that the curtailment would amount to 300,000 tons yearly, thus verifying the news given out at New York. Moreover they stated that 12.30c per pound is a reasonable quotation for export. Immediately after their return export sales were 1,000 tons for a day, the best in two weeks.

The large copper producers have sold nothing, except in their allotments for export. Custom smelters have been allowed to take what domestic business came along. A fair amount of business each day allowed the custom smelters to advance prices ¼c per pound daily. It is reported that this class of producers has a new scheme for selling based on average price of copper over four to six weeks. In the past they have been compelled to sell copper each day in order to determine what price they should pay for their ore. The new method is said to be better in that it will make it less necessary for custom smelters to force sales at whatever price the copper will bring. The custom smelters have been the disturbing factor in the copper market for several years and a genuine improvement in their sales methods should benefit the entire industry.

November copper statistics will be announced Friday this week by the American Bureau of Metal Statistics. Since the world curtailment conference functioned too late to show up in the November statistics, no great change in



trends is expected for the month past, though some have been predicting the first decline in surplus stocks for many months.

The first November statistics to appear pertain to tin, in which the world's visible supply increased 1135 tons to the total of 40,811 tons. Straits tin shipments came to 8540 tons, while American tin deliveries, implying consumption, were 6270 tons. These three figures were regarded as unfavorable, but not extremely so. There are indications that December figures will be better.

Demand for lead is extremely routine and the market has been the most stable of all metals, prices for several weeks having remained 5.10c per pound, New York, and 4.95c, East St. Louis. Producers have opened books for January shipment, but only prompt lead, in car-load lots, is wanted.

Zinc steadied at 4.07½c per pound for several days, but dropped further to 4.05c, East St. Louis, on Wednesday, which is but \$2 per ton above the low point of the past several years. The next day, however, it advanced to 4.10c. Demand for zinc has been extremely quiet, but at the same time con-

sumers are incompletely bought ahead, so that when a change in sentiment occurs the buying should be active.

### Identify Southern Products

From time to time the MANUFACTURERS RECORD has suggested that proper recognition be given to the labeling of Southern products. Wherever Southern materials are manufactured and prepared for distribution they should be marked to identify their origin in the South. Naturally a great quantity of Southern products in the raw state or semi-manufactured are utilized elsewhere in the manufacture of finished goods and it would be impracticable to identify such materials as of Southern origin. Nevertheless, there are many commodities, notably in the food industry, which should receive recognition as originating in the South.

Arkansas, though its State Chamber of Commerce, has launched a campaign to identify Arkansas products in so far as it is possible to do so. It is proposed to label or brand its commodities shipped elsewhere both as being Southern and as Arkansas products.

### Predicts New Metal Era in Building

A new metal era in architecture marked by startling changes in construction and a building revival is predicted by William A. Boesche, President of the National Association of Ornamental Iron, Bronze and Wire Manufacturers.

"In these days of small building lots when recreation space is at a premium," Mr. Boesche points to the "trend toward the elimination of the pitched roof and the substitution of a flat roof on which can be built a terrace garden or outdoor living room; fewer porches and thinner walls because of improved insulating materials.

"The most radical change, however, is indicated in the present trend toward the greater use of metals for structural and decorative purposes. Owners of smart homes are adopting metals for interior furnishings, to a large degree. We dine on glass-topped iron tables, read by wrought iron lamps, rest in plush-cushioned iron furniture, enter and leave through iron or bronze doorways and otherwise employ metal in a thousand new ways.

"Many of the best dressed office buildings have turned to metal for exterior and interior ornamentation. In fact an era of all-metal buildings may not be so far away. Interesting experiments have been made along this line and several prominent structures have been constructed entirely of metal."

## Quick-Frozen Fruit Passes Rigid Test

Findings which provide needed scientific data are announced by Dr. J. Cecil Rhodes, director of the Medical Arts Laboratories, Philadelphia, following completion of the first phase of an investigation to determine the exact effects of the new quick-freezing process upon fresh fruits frozen during their season for year-round consumption.

The tests of fresh peaches frozen at the Montezuma, Ga., plant last summer by a company organized by Tom Huston, of Columbus, were designed to show what effect if any the freezing had upon their flavor, food value, mineral salts content, enzymes and other chemical constituents. The fruit was subjected both to chemical analyses, and taste tests. Bacterial cultures were made for evidence of the general effectiveness of the quick-freezing process in the preservation of fresh fruits.

"The tests show," Dr. Rhodes states, "that all the original nutritive values and mineral salts are present. The very delicate oxidizing enzymes have been preserved. There is no evidence to indicate that any other chemical constituents or any of the flavor has been lost. Study of the bacterial cultures has demonstrated the general effectiveness of quick-

freezing in preserving perishable fruits in a fresh state."

In Dr. Rhodes' opinion, rapid development of the quick-freezing process as applied to fresh fruits forecasts an improvement in the nation's diet through providing a greater abundance of fresh, health-giving foods during the winter months; and a more profitable return to the grower by opening up to him wider, year-round markets for perishable products.

Quick-freezing differs from ordinary cold-storage freezing in that foods are frozen in from one to two hours instead of from 12 to 48 hours. The quicker the freezing the smaller the ice-crystals formed. Sub-zero temperatures employed in quick-freezing result in small crystals which do not destroy the walls of the cells, whereas in slow-freezing the large ice crystals break down the cell walls and allow the escape of their contents, resulting in loss of nutritive value and flavor.

At the present time Mr. Huston, one of the pioneers in quick-freezing fruits, is constructing another quick-freezing plant at Orlando, Fla. Here he will freeze orange juice which is to be delivered at the door by the milkman along with the morning milk for serving on the breakfast tables of the nation.

### Wood Dust Highly Explosive

Wood is a high explosive under certain conditions, said Hylton R. Brown of the U. S. Department of Agriculture in addressing the recent annual meeting of the American Society of Mechanical Engineers in New York. Mr. Brown is an engineer in the Bureau of Chemistry and Soils; he explained that wood dust such as occurs in woodworking plants and in wood flour factories is an explosive form. "Tests in the laboratories of the chemical engineering division of the bureau have shown," said Mr. Brown, "that wood dust is not only more easily ignited but produces higher pressures than some of the grain dusts which are capable of producing pressures so tremendous as completely to destroy concrete and steel elevators when the proper mixture of dust and air is ignited."

The bureau recently has investigated more than 30 explosions in woodworking plants, showing that quantities of wood dust are produced by saws, planers, sanders and wood flour machines. It is easy to ignite the dusts with disastrous effect.

# AVIATION, AIRPORTS AND AIRWAYS

## New York-Atlanta Air Passenger Service

All cities on the New York-Atlanta airway were represented in the opening passenger flight December 9. Ten large air transport planes of Eastern Air Transport, Inc., carrying officials of the United States Postoffice, aviation and other business organizations, flew from various cities on the New York-Atlanta airway to Atlanta. From Candler Field, Atlanta, the planes left to visit each city on the route in the official opening. Ceremonies were scheduled for Greenville, Spartanburg, Charlotte, Greensboro, Richmond, Washington, Baltimore, Philadelphia and New York. The Eastern Air Transport service between New York and Atlanta will tie in with the Colonial Airways to Boston and the Southern Transcontinental route to Los Angeles, forming a continuous passenger service from Boston to the West Coast. The Eastern Air Transport also has arranged to extend its Atlanta service to Miami.

## Florida Aviation Contests

Miami, Fla.—Plans are being made for the Florida State Aviation Month, beginning with the Miami All-American Air Races, January 8, 9 and 10, 1931, and continuing with a series of air races, meets and record trials throughout the state. The Miami meet is expected to draw the largest number of entries ever made in any air meet and it is thought that, by a judicious expenditure of money, visiting planes would participate in meets in all sections of the state, thus enabling these communities to share in the publicity and educational value of the event. By charging a nominal admission to the different meets and air shows, it is thought the State Aviation Month will be nearly if not entirely self-supporting. Lewis Sevier, Miami, is chairman of the contest committee of the Miami All-American Air Races.

## \$1,000,000 Airport Planned

New Orleans, La.—Tentative plans for New Orleans' \$1,000,000 airport have been announced by John Klorer, chief engineer of the Orleans Levee Board, which call for an airport in the shape of a trapezoid, extending 4500 feet along Lake Pontchartrain and 2600 feet into the lake. It will be about 2200 feet long on the lake end and will embrace an area of 240 acres, 4,000,000 cubic yards of sand and shells being used as a fill.

The airport will be surrounded by a concrete seawall 10 feet higher than the mean low water of the lake. Four runways 3000 feet long are planned initially to take care of planes flying from eight different directions of the wind, while provision will be made for future double runways to permit simultaneous landing and taking off. Seaplanes will land in the lake outside of the wall and will be handled by a ramp leading from the water to the airfield. Natural drainage will be accomplished largely through the filling, it is said. Construction will probably start soon after January 1.

## Completing Naval Dirigible

The skeleton of the big naval dirigible being constructed by the Goodyear-Zeppelin Corp., at Akron, Ohio, for the United States Government is expected to be completed by the end of this year and the ship made ready for its trial flight during the summer of 1931. Finishing touches are now being made to eight internal engine rooms of the 785-foot craft. Rear Admiral W. A. Moffett is chief of the United States Naval Bureau of Aeronautics, under whose supervision the airship is being built.

## Air Transportation Progress Reviewed

According to the annual report of Clarence M. Young, Assistant Secretary of Commerce for Aeronautics, the year's progress in civil aeronautics was marked particularly by continued development of scheduled air transportation of mail, passengers and express. Scheduled air transport operators flew 25,141,499 miles in the calendar year 1929, carried 176,405 passengers, 1,866,879 pounds of express and 7,772,104 pounds of mail. They received payments for transportation of air mail aggregating \$17,042,520.

Under its program of airways development, the Aeronautics Branch lighted 3321 miles of airways during the fiscal year ended June 30, 1930, established and lighted 56 intermediate landing fields and installed and operated 218 standard revolving beacon lights. Automatic telegraph-typewriter circuits for collecting and disseminating weather information were installed on 5650 miles of airways, and 13 radio broadcasting stations were put in operation to broadcast weather information to planes in flight at regular intervals, both day and night. Two radio range beacons to guide pilots along airways by means of radio signals also were put in operation.

At the close of the fiscal year there were 13,500 miles of lighted airways in operation with 319 intermediate fields, 1477 airway beacons, 303 airway weather reporting stations, 35 airway radio communication stations and 9 radio range beacons. Practically completed but not in service operation, were 27 more radio range beacons, and in addition there were under contract, with the work of installation in various stages of completion, 1728 miles of airways on which are being established 36 intermediate fields and 223 airway beacon

lights. During the current fiscal year 3000 miles of additional airways will be lighted, 33 additional radio range beacon stations established, 2800 miles of automatic telegraph-typewriter circuits put in operation, and 20 radio communication stations installed. Upon the completion of these additional stations, practically every section of the United States in which flying is a regular activity will afford pilots the means of receiving broadcasts of weather information while in flight.

Of 13,000 pilots holding all types of Department of Commerce licenses at the close of the fiscal year, 600 were employed on the scheduled air mail and passenger lines. In the fiscal year 1929-1930, there were 10,360 pilots' licenses issued by the department, approximately twice as many as were issued in the preceding fiscal year. Licenses renewed during the fiscal year totaled 9367 and student pilot permits 21,191, representing large increases in both classifications. In the new category for glider pilots, 39 licenses were issued. For mechanics, 3719 licenses were issued and 2219 renewed. For aircraft, 6521 licenses were issued, 2278 renewed, 3370 identifications issued and 129 export certificates issued, all figures showing increases over the preceding fiscal year.

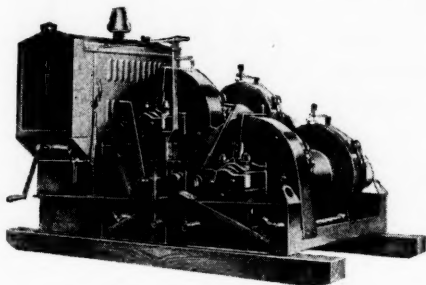
Looking to the future in air transportation, Mr. Young's report points out that when provisions of the Watres air mail act are in full effect, air mail will be extended to various parts of the country not now being served, by utilizing existing air passenger transport lines, and that by placing present air mail carriers in the passenger-transportation business, the establishment of a more comprehensive passenger service will be materially aided.



## NEW AND IMPROVED EQUIPMENT

### Friction Band Hoist

A new type of hoist, with internal expanding band frictions, has been introduced by the Clyde Iron Works, Duluth, Minn. It may be powered either by a gasoline or an electric motor and is de-

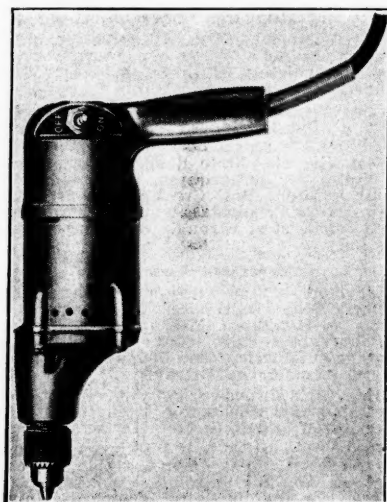


Suitable for High Line Speed Work

scribed as particularly suitable for any type of work where high line speed is required. An outstanding feature is the internal expanding band friction, "self energizing but which still retains the 'feel' of the friction so necessary for successful operation." Other features include roller bearing drums, ring oiling intermediate shaft bearings, double brake bands which are all interchangeable, and air-cooled brake flanges.

### Light Weight Electric Drills

Two electric drills, announced by the Chicago Pneumatic Tool Company, New York, and designated as Little Giant No. 18 Universal and Little Giant No.



No. 19 Universal Drill

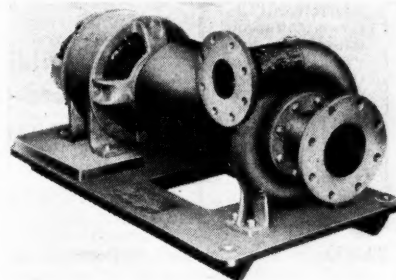
19 Universal, are designed for drilling up to 3/16-inch capacity in aeroplane work, in automobile body trim departments, in metal furniture steel shelving and sheet steel filing cabinet work. Both

models are of full ballbearing construction, with quick-acting simple switch, simplified stator design, of high speed and with straight line design for close-quarter work. The No. 18 drills weigh 5 pounds or less and are 11 3/8 inches or under in overall length, while the No. 19 models weigh 4 3/4 pounds or more and are 9 3/4 inches or more in overall length.

### Turbine Generator

A direct connected water turbine-generator set has been developed by the Fitz Water Wheel Co., Hanover, Pa., for the production of small amounts of electric current. The generator is designed for use wherever water pressure is available, and is serviceable at night and during the shutdown of plants making their own electric current. This Fitz auxiliary generator unit can also be utilized as a power factor corrector

in plants where the voltage drop causes lagging currents. The unit is produced in sizes up to 20 kilowatts in either di-



Self-Contained and Automatic

rect or alternating current, is self-contained and automatic and according to the company requires only weekly attention for lubrication. Where the plant water must be free of grease, the unit is provided with a water lubricated bearing at no extra charge.

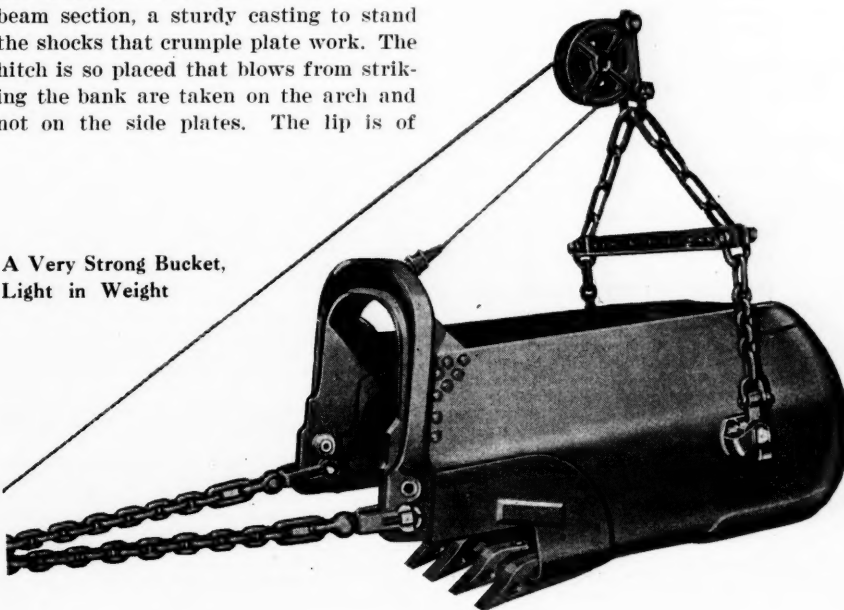
### Dragline Bucket by Northwest

The Northwest Engineering Company, Chicago, one of the world's largest exclusive builders of shovels, cranes and draglines, announces a new dragline bucket. Through scientific design and the use of special alloy steels, a bucket of great strength and light weight has been developed. In tests, the bucket was subjected to a load of 34,000 pounds, enough to temporarily spring it out of shape, but always resumed its original form without any permanent set remaining. An outstanding feature of the new bucket is the arch. This is an I-beam section, a sturdy casting to stand the shocks that crumple plate work. The hitch is so placed that blows from striking the bank are taken on the arch and not on the side plates. The lip is of

rolled alloy steel welded directly to the arch and the two are heat-treated as a unit. The basket or load-carrying portion is formed from a single piece and welded at the corners. This makes a clean smooth interior free from weakening rivets and it sheds sticky materials quickly. All welding is done by a special method assuring a ductile, flexible weld that withstands shock.

The dumping sheave has received special attention and is designed to promote maximum cable life. The dump sheave and hoist trunion pins are of hardened steel and all castings are heat-treated.

A Very Strong Bucket,  
Light in Weight





# CONSTRUCTION DEPARTMENT

## and

# NEW ENTERPRISES

Covering the initial announcements of new undertakings with additional information about enterprises previously mentioned. The date at the end of an item indicates preliminary facts were given in a previous issue.

When writing to a new firm or corporation the name of at least one of the incorporators should be placed on the envelope to expedite its handling by the local postoffice. Mail may be delayed unless complete address is given.

Building and Construction Proposed and Contracts Awarded; Manufacturing, Mining, Power, and Land Developments; Public Works; Transportation; Communication; Financial Enterprises; New Business Opportunities Reported in the Sixteen Southern States.

The Daily Construction Bulletin of the Manufacturers Record gives each business day advance news published in this weekly review. It is invaluable to those requiring prompt information. Subscription price \$40.00 a year.

### Airports, Airplane Plants, Etc.

Ala., Birmingham—E. W. Stanford, Archt., Room 438, Martin Bldg., receives bids Dec. 22 for construction of terminal building and hangar at municipal airport; cost \$125,000; bids to be addressed to Birmingham Park and Recreation Bd. 12-4

Ala., Montgomery—Following contractors estimating on 4 standard, 110x220 airplane hangars, with 3 bay annexes at Maxwell Field, conc. foundations; tile walls, stucco, steel doors and sash, plumbing, wiring, heating, unit heaters, etc.: Grahn Construction Co., Red Rock Bldg., and Wagar Co., Norris Bldg., both Atlanta, Ga.; C. M. Guest & Son, Sharpe St., Anderson, S. C.; Batson-Cook Co., West Point, Ga.; Algernon Blair, First Natl. Bank Bldg.; Upchurch Construction Co. and Hodgson-Jones Construction Co., N. Perry St., all Montgomery; A. J. Honeycutt Co., Martin Bldg.; Johnson Construction Co., 512 N. Sixth St.; Smallman Construction Co., 1109 Fifth Ave., S., and D. T. Underwood, Pioneer Bldg.; E. O. Coston, 3019 Sixth Ave., S., all Birmingham; R. E. Sundberg Construction Co., 269 N. Royal St., Mobile; J. F. Holley Co., Ensley; Ogletree Construction Co., 11th St., Anniston; J. M. Raymond Const. Co., Hildebrandt Bldg., Jacksonville, Fla.; J. A. Jones Const. Co., Commercial Bank Bldg., Charlotte, N. C.; Morley Bros. Construction Co., 1643 Bellevue St., Kansas City, Mo.; bids opened Dec. 18. 11-27

Fla., Lake Placid—Town, J. M. Andrews, Mayor, advises at present are preparing 2 runways, one north and south, 1550 ft., and other east and west, 1700 ft., completion in Jan.; are not building hangars and other equipment at present.

Fla., Ocala—Airport Bd., Leonard Todd, Chrmn., reported, plans construction of hangar at airport.

Okl., Oklahoma City—Charles S. Russell, Hightower Bldg., Archt., completing plans for \$425,000 municipal airport. 11-20

### Bridges, Culverts and Viaducts

#### Proposed Construction

Alabama—See Roads, Streets and Paving.

Ark., Murfreesboro—Arkansas Highway Comsn., C. S. Christian, Engr., Little Rock, has plans approved by War Dept., Washington, for bridge over Little Missouri River near here between Murfreesboro and Nashville; plans not complete.

D. C., Washington—H. C. Whitehurst, Engineer of Highways, Government of District of Columbia, advises bids will be opened above Mar. 1 for bridge across Klinge Valley; plans in progress and will be ready for advertisement about Feb. 1; Modjeski, Masters & Chase, Const. Engr., 1420 Walnut St.; Paul Cret, Archt., 112 S. 16th St., both Philadelphia, Pa.

D. C., Washington—Comms., D. C., District Bldg., receive bids Jan. 5 for reconstructing Monroe St. bridge over Baltimore & Ohio tracks.

Fla., Jacksonville—City, W. E. Sheddan, City Engr., considering building bridge, St. Johns Ave., over Little Fishweir Creek.

Fla., Jacksonville—Alfred I. du Pont, reported, offered to build toll bridge over St. Johns River.

Fla., Miami Beach—See Miscellaneous Construction.

LOUISIANA—State Highway Comsn., Harry B. Henderlite, Engr., Baton Rouge, opens bids Jan. 6 for 12 bridges:

Carroll-Morehouse Parishes—Boeuf River bridge and 6 other bridges, Oak Grove-Mer Rouge Highway, Route 11, 160-ft. fixed span, rein. conc. piers on timber piles, 1350 ft., combined steel-conc.-timber trestle spans (Bond) F. A. P. 190-B-2;

Tangipahoa Parish—Tangipahoa River bridge, Kentwood-Sunny Hill Highway, Route 71, 2 40-ft. I-beam spans, 22 creosoted pile trestle spans, earth approaches, 463-B;

Avoyelles Parish—Red River bridge, Archie-Marksville Highway, Route 57, 320-ft. swing span, 320-ft. fixed span, 100-ft. fixed span, rein. conc. piers on timber piles, 14 31-ft. rein. conc. deck girder spans on conc. piles, (Bond) F. A. P. 1402;

East Baton Rouge-Livingston Parishes—Amite River bridge, Baton Rouge-Hammond Highway, Route 7, 250-ft. fixed span, rein. conc. piers on timber piles, 38 30-ft. rein. conc. deck girder spans on conc. piles (Bond) Proj. 2600;

Red River Parish—Red River Bridge, Coushatta-Mansfield Highway, Route 9, 320-ft. swing span, 4 250-ft. fixed spans, 140-ft. fixed span, rein. conc. piers, 8 31-ft. rein. conc. deck girder spans on conc. piles, earth approaches, (Bond) F. A. P. 5004;

St. Tammany Parish—Bogue Chitto River bridge, Covington-Bogalusa Highway, Route 7, 160-ft. fixed span, rein. conc. on timber piles, 90 20-ft. combination steel-conc.-timber spans.

La., New Orleans—U. S. Engr. Office, First New Orleans Dist., 440 Dauphine St., has low bid from Doullut & Ewin, Inc., Queen and Crescent Bldg., at \$94,974, for railway swing bridge over Louisiana-Texas Intracoastal Waterway, Bayou Sale Branch of Texas & New Orleans R. R. Co., near North Bend. 11-20

La., New Orleans—New Orleans Public Belt R. R., owned by city, authorized by Interstate Commerce Comsn., Washington, D. C., to build \$19,000,000 railroad and highway bridge over Mississippi River and 5-mi. extension of line, comprising approaches to and trackage across bridge, under condition that work will be started not later than May 1, 1931, and completed by Dec. 31, 1933. 4-24

Md., Baltimore—City, Bureau of Highways, H. L. Lucke, Engr., Bridge Div., probably call for bids soon for \$700,000 29th St. bridge; conc. arches faced with local stone, approx. 1375 ft. long, 40-ft. roadway, 2 side-walks 7 ft. 10 in. each, 2 main arch spans 232 ft., 6 arch spans 30 ft., retaining walls, fill, etc.

Missouri—State Highway Comsn. opens bids for 25 bridges. See Roads, Streets and Paving.

Mo., St. Louis—City, Bd. of Public Service, may start work in February on railroad approaches to Municipal Bridge on east side of river leading from proposed East St. Louis station of Terminal Railroad Association; longest of 5 to be built by city at \$3,250,000; probably call for bids in January; 3 additional approaches will be built to east side of bridge and 2 to west side. 9-11

Oklahoma—State Highway Comsn., A. R. Losh, Engr., Oklahoma City, has preliminary plans for 2 bridges: 6-span, 110-ft., rein. con. near Heavener, LeFlore County, \$30,000; 6-span, 110-ft., rein. conc., near Hominy, over Hominy Creek, Osage County, \$25,000.

S. C., Georgetown—Atlantic Bridge Co., Jefferson Bldg., Greensboro, N. C., applied to U. S. Engr. Office, Charleston, for permission to make wash borings and drive test piles preliminary to building bridge over Pee Dee and Waccamaw Rivers here.

Tenn., Memphis—Atlantic Bridge Co., Harry G. Hunter, Jefferson Bldg., Greensboro, N. C., applied for franchise to build toll bridge from end of Harahan bridge over Mississippi, Memphis, to Marion, Ark.

Tex., Fort Worth—Texas & Pacific Ry. Co., E. F. Mitchell, Ch. Engr., Dallas, plans starting work early in 1931 on Jennings Ave. underpass.

Tex., High Island—Atchison, Topeka & Santa Fe Ry. Co., G. W. Harris, Ch. Engr., Chicago, Ill., plans \$125,000, 120-ft. span, single leaf bascule bridge for single railroad track over Intracoastal Waterway; Scherzer Rolling Lift Bridge Co., Engr., 53 W. Jackson Blvd., Chicago.

Tex., Houston—See Roads, Streets and Paving.

Tex., Houston—City, J. M. Nagle, Engr., drawing preliminary plans for underpass at Galveston, Houston and Henderson Ry. tracks and proposed extension of 75th St.

Va., Norfolk—City, Walter H. Taylor, III, Director of Public Works, plans eliminating wooden bridge over Mason Creek north end of Forest Lawn Cemetery by installing conc. culvert and filling remainder of marsh.

Va., Richmond—City, R. Keith Compton, Director of Public Works, may start work by Dec. 15 repairing Ninth St. bridge; \$50,000 authorized.

West Virginia—State Road Comsn. has low bids for 3 bridges. See Roads, Streets and Paving.

West Virginia—State Road Comsn., George E. White, Sec., Charleston, opens bids Dec. 15 for building Bull Creek bridge No. 1235, Proj. 182-C, Pleasants and Wood Counties; 130-ft. span steel through truss superstructure only.

#### Contracts Awarded

Maryland—State Roads Comsn., H. L. Stuart Sec., Baltimore, let contract to Jarboe & Houghton, Mechanicsville, at \$44,855, for substructure, floors and approaches of grade elimination over Pennsylvania R. R. Severn, Anne Arundel County. 10-9

Miss., Greenwood—City Council let contract to Chas. Abbott for strengthening Pelucia Bayou bridge, foot of Market St.

Miss., Woodville—Wilkinson County Supvrs., C. A. Coon, Chancery Clk., let contract to W. R. Fairchild, Woodville, for bridge over Buffalo Canal, known as Hamilton Ditch; J. T. Wright, Const. Engr. 11-20

Okl., Waurika—Jefferson County, Will Arner, Clk., let contract to J. D. Huffman, Waurika, at \$13,990 for conc. culverts and steel bridges.

Texas—State Highway Comsn., Gibb Gilchrist, Engr., Austin, let contract to Jagoe Construction Co., Lewisville, at \$73,355, for conc. girder bridge over Village Creek, Highway 34, Tarrant County, F. A. P. 958-D. 11-20

Texas—See Roads, Streets and Paving.

Tex., Fort Worth—St. Louis Southwestern Ry. Co. of Texas, W. S. Hanley, Ch. Engr., Tyler, build \$20,700 underpass, Highway 10, under tracks, with own forces; materials ordered; railway and Tarrant County to share cost. 12-4

### Canning and Packing Plants

Tex., Edinburg—Tewell Lumber Co., has contract for citrus packing shed.

### Clayworking Plants

Ga., Augusta—Southern Brick & Tile Co., 13th and Ormsby St., Louisville, Ky., advises have not leased Georgia and South Carolina properties of Georgia-Carolina Brick Co. as lately noted. 11-28

### Coal Mines and Coke Ovens

Ky., Spottsville—Peach Orchard Coal Co., incorporated; W. C. and Preston Green.

### Concrete and Cement Plants

Okla., Tulsa—Missouri Portland Cement Co., Telephone Bldg., St. Louis, Mo., reported, completed plans for cement plant; may let contract about Jan. 1. 8-14

### Cotton Compresses and Gins

S. C., Greenville—Southeastern Compress and Warehouse Co., Finley Bridge Road, reported, let excavation contract to Ashmore & Sons, Greenville, for addition increasing capacity to 90,000 bales cotton.

### Drainage, Dredging and Irrigation

Ala., Mobile—U. S. Engr. Office, Mobile, opens bids Dec. 22 for dredging approx. 3,000,000 cu. yd. material in Mobile Bay Channel between Beacon 16 and point approx. 1000 ft. south of Buoy 16.

Ark., Pine Bluff—Newell Contracting Co., Martin Bldg., Birmingham, Ala., started construction on \$60,000 Wabaska-Altheimer drainage project.

Fla., Jacksonville—U. S. Engr. Office let contract to Clark Dredging Co., 343 S. W. North River Dr., Miami, for dredging approx. 3,406,000 cu. yd., place measurement, Indian River portion of Intracoastal Waterway, Jacksonville to Miami, at \$253,314. 11-26

Fla., Miami Beach—See Miscellaneous Construction.

La., Opelousas—Comms. of Prairie Basse Gravity Drainage Dist. No. 15 of St. Landry Parish have low bids from Jacobson & Mortenson, Hammond, at .0830 cents per cu. yd. for approx. 35 mi. drainage, approximating 700,000 cu. yd. earth. 11-6

Okla., El Reno—Bd. of Comms. of Banner Drainage District No. 6, Canadian County, plans excavating 119,235 cu. yd.; H. Powell, Engr., El Reno.

Okla., Pauls Valley—Bd. of Comms. of Wild Horse Drainage District No. 2 receives bids about Jan. 1 for 320,474 cu. yd. open ditch work, \$64,910.

Tex., Houston—City, reported, approved plans and specifications for sewers, Crawford St. between Franklin and Texas Sts.

Tex., Liberty—Old River Drainage Dist. plans expending \$25,000 for purchasing ditching machine and for enlarging maintenance of drainage system. 11-20

Tex., Mission—Voters of proposed Hidalgo County Water Control & Improvement Dist. No. 13 defeated confirmation of formation of district. 11-20

Virginia—U. S. Engr. Office, Navy Bldg., Washington, D. C., let contract to Atlantic Gulf & Pacific Co., 13 Park Row, New York, at \$31,887 for dredging, Rappahannock River. 11-26

Va., Quantico—Chief, Bureau of Yards and Docks, Navy Dept., Washington, D. C., has low bid from Trimount Dredging Co., 10 State St., Boston, Mass., at \$634,780 for dredging at marine barracks, including excavating and drilling. 11-6

### Electric Light and Power

Electric light and power work in connection with many LAND DEVELOPMENT operations involves the expenditure of large sums of money. See that classification for details.

La., Opelousas—City receives bids Dec. 30 for installation lighting system. 12-4

Miss., Belzoni—See Miscellaneous Construction.

Okla., Cushing—City, reported, voted \$300,000 light and power plant bonds. 11-20

Okla., Holdenville—City votes Dec. 16 on \$14,000 lighting system bonds.

Okla., Watonga—City, reported, plans \$100,000 electric light plant; L. Boughton, Engr.

### Flour, Feed and Meal Mills

Tenn., Sparta—Dewey Bradley acquired interest in Sparta Roller Mill.

Tex., Clifton—Bosque Mill and Elevator Co., capital \$40,000, incorporated; R. O. Bass, Ray Harris.

### Foundry and Machine Plants

Mo., Humansville—Munn Corp. incorporated; Elvon R. Munn, Ora Cacy.

Mo., St. Louis—Century Electric Co., 1806 Pine St., reported, construct 1 story addition to foundry, 3763 Market St.; 43x94 and 286x41 ft.; conc. roof, steam heat; Edw. J. Lawler, Archt., 3727 Market St.

N. C., Charlotte—Charlotte Pipe & Foundry Co., Dowd Rd. and Clarkson St., will erect cast iron soil pipe and fittings plant; 200x300 ft.; brick, steel and glass; copper bearing galv. iron roof; cost \$50,000; let contract to Ingalls Iron Works Co., 720 Fourth Ave. S., Birmingham, Ala., McClelland Co., Latta Arcade, Charlotte, and Steel Construction Co., 720 Fourth Ave. S., Birmingham, Ala.; placed orders for equipment. 12-4

S. C., Greenville—Great Dane Co., Inc., incorporated; Wm. Lowndess, Jr., 18 Williams St.; plans establishing plant for manufacture trailers for trucks.

Tenn., Fayetteville—Kennedy-Van Saun Mfg. & Engineering Corp., 2 Park Ave., New York, reported, will erect branch plant for manufacturing mining, crushing and pulverizing machinery.

Tenn., Memphis—Vulcan Iron Works, Inc., 133 E. Butler St., incorporated; Wm. C. Ellis, Charles L. Glasscock.

Va., Waynesboro—Edison Electric Appliance Co., 22 W. 15th St., New York, reported, plans addition to plant; company lately acquired Waynesboro plant of W. J. Loth Stove Co. 9-25

### Garages and Filling Stations

Fla., Delray—Delray Motors, Inc., chartered; L. W. Johnson, B. C. Butler.

Ga., Pelham—Pelham Motor Co. has plans by Dennis & Dennis, Architects., 556 Mulberry St., Macon, for garage; 1 story and basement, 60x100 ft., conc. foundations, brick walls, tar and gravel roof.

Ga., Rome—John Accomasso erect filling station to be leased to Shell Oil Co.

Ky., Ashland—M. E. S. Posey will erect filling station, S. W. Cor. Eighteenth St. and Carter Ave.

Ky., Paducah—Ryan Motor Co. incorporated; Holland G. Bryan, Court House.

Md., Baltimore—Conveyor Auto Laundries, Inc., 2016 Gwynns Falls Parkway, incorporated; Daniel Goldberg, Max H. Aronson, both Washington, D. C.

Md., Baltimore—Royal Farms Dairy, F. E. Saumenig, 3701 Woodbine Ave., plans 1-story brick stable and garage, 1529 Braddish Ave.

Md., Baltimore—V. J. Schell, 3509 Fleet St., soon let contract for garage; 1 story, brick, 76x150 ft.

Md., Baltimore—Henry Momberger, 34 W. Chase St., will erect garage and storage building 2610 St. Paul St.

Md., Frederick—Central Mortgage Co., Joseph Swen, 810-A Equitable Bldg., Baltimore, construct filling station.

Md., Hagerstown—Martin Motors, Inc., and M. P. Moller Motor Car Co., 901 Pope Ave., reported, manufacture car designed by James V. Martin at plant of Moller Co.

Mo., St. Louis—American Railway Express Co., 1730 Clark St., reported, construct \$150,000 garage, Fifteenth and Spruce St.

Mo., St. Louis—Wedge Tire Co. incorporated; John W. Harriman, 740 Luckstone, Glendale; M. O. Correks, 5822A Kennerly Ave., St. Louis.

N. C., Charlotte—Allen Auto Service, Inc., chartered; A. S. Allen, 217 N. Myers St.

N. C., Smithfield—Holleman Chevrolet Co., capital \$50,000, incorporated; B. Holleman, Smithfield; W. G. Pilley, Raleigh.

Okla., Oklahoma City—Wm. Neubauer, 421 W. California St., Oklahoma City, reported, erecting filling station; 1 story, brick and cone.

S. C., Columbia—Cox-Stubbs Co. incorporated; W. Clarence Clinkscales, Belton.

Tenn., Memphis—Johnson Motors, Inc., 800 Bank St., incorporated; Bertrand W. Cohn, J. Neal Johnson.

Tenn., Memphis—Simplex Auto Lubricating Co., 317 Jefferson St., incorporated; Lillian M. Hurd, Lee Ketchum.

Tex., Austin—Bryden Bros., Austin, have contract for super service station; 90x16 ft., 1 story; conc.; built-up roof; cost \$28,000.

Tex., Austin—Mary Butler, 405 W. 16th St., erect brick service station 100 block Congress Ave.

Tex., Dalhart—D. O. Hazleton erect garage on Denrock Ave.; Dycke Motor Co., Lessee; Homer Wise, Contr.

Tex., San Antonio—T. A. Sheehan, 702 Builders Exchange Bldg., has contract for garage, servants' quarters and laundry, 322 W. Kings Highway, for A. H. Morton, Natl. Bank of Commerce Bldg.

Va., Richmond—Kent Automatic Garage System and Guarantee Finance Corp., 707 Mutual Bldg., plans erecting Franklin Motor and Service Garage, Ninth and Franklin Sts., on site 100x148 ft.; cost of building complete, including shop on front of site, \$350,000; Marcellus E. Wright, Archt., American Natl. Bank Bldg.

W. Va., Charleston—Standard Oil Co., Davidson Bldg., reported, construct additional office building and repair garage on south side; cost \$100,000; A. G. Higginbotham, Contr., Charleston Natl. Bk. Bldg.

### Gas and Oil Enterprises

Ark., Smackover—Dayson Petroleum Co. incorporated by Sylvester Dayson and associates; construct \$100,000 refinery; construction to begin Dec. 15; install machinery for petroleum specialties.

Fla., Palmetto—Surprise Oil Co., capital \$50,000, incorporated; B. F. Alley, A. B. Rowe.

Georgia—Southern Cities Public Service Co., 105 W. Adams St., Chicago, Ill., reported, plans continuation of company's schedule of construction and expansion; operates in Georgia, North Carolina and South Carolina, Florida and Alabama.

Kentucky—Eastern Gulf Oil Co., 504 Trust Co. Bldg., Lexington, reported, acquired pipe line in Clay County formerly owned by Paragon Development Co.

Ky., Glasgow—Wood-Snyder Oil Co., capital \$50,000, incorporated; H. B. Wood, M. F. Snyder.

Ky., Louisville—Paramount Oil & Gas Co., capital \$20,000, incorporated; C. Dulworth, 904 W. Market St.

Ky., Prestonburg—Francis-Day Oil and Gas Co., capital \$20,000, incorporated; H. C. Francis, W. H. Jones.

La., DeRidder—J. D. Shaw, Ch. Engr., United Gas Co., Esperson Bldg., Houston, reported, surveying routes for natural gas pipe lines.

Md., Hyattsville—Interests connected with Washington Gas Light Co., Washington, D. C., reported, acquired Washington Suburban Gas Co. 12-4

Miss., Magnolia—Mississippi Industrial Gas Co., Jackson, reported, granted franchise to supply town with natural gas; will begin survey at once; construction within 2 weeks.

Miss., McComb—Mississippi Industrial Gas Co., Jackson, reported, begin immediate construction of gas distribution system; has franchise; company applied for franchise in Crystal City, Hazlehurst and Brookhaven; has franchise Terry and McComb. 10-30

Mo., Butler—Western Service Corp., Oklahoma City, reported, granted 20 yr. gas franchise.

Mo., Kansas City—Southern States Gas Co., Inc., capital \$500,000, incorporated; Charles H. Andrus, Pampa, Tex.

Mo., St. Louis—Go-Rite Gasoline Co., incorporated; W. W. Strickler, 6310 Fauquier Drive.

N. C., Winston-Salem—American Oil Co., American Bldg., Baltimore, Md., reported, acquired Pilot Oil Co., N. Chevy St., and American Oil Co. (a local corporation), 1105 S. Main St.; will operate all of service stations; Roy W. Craft, S. Main and Waughtown Sts., Local Mgr.

Okla., Bristow—Mid-Kansas Oil Co., reported, enlarge Bristow refinery to capacity of 10,000 bbls. daily; also erect lubricating plant; Ohio Oil Co., Findlay, O., parent company.



Oklahoma—Cater Construction Co., 122 W. Fifth St., Kansas City, Mo., reported, has contract for construction of 8-in. welded pipe line for Continental Oil Co., Ponca City, from Tonkawa to Oklahoma City field. 12-4

Okla., Healdton—Empire Pipe Line Co., Bartlesville, reported, construct 8-in. oil pipe line from Oklahoma field to Healdton where it will connect with line to company's refinery at Gainesville, Tex.

Okla., Oklahoma City—Sultan Drilling Co., capital \$500,000, incorporated; A. F. Sales, 1427 W. 24th St.

Okla., Oklahoma City—Farmers National Minerals Co., capital \$110,450, incorporated; Geo. C. Bowen, 1610 Linwood St.

Okla., Oklahoma City—Empress Oil and Gas Co., incorporated; Frank L. Wilkins, 1410 W. Park St.

Okla., Keystone—Oklahoma Water & Power Co., Sand Springs, reported, granted permission by Corporate Comsn. to acquire Keystone Light & Fuel Co.

Tex., Arcadia—Gulf Cities Natural Gas Co., Houston, reported, laying mains to furnish city with natural gas; plan later extending line to Hitchcock.

Okla., Oklahoma City—Southwestern States Oil Co., Scott Ferris, Pres., Cotton Grain Exch. Bldg., reported, negotiating for gas franchise.

Tex., Electra—Texas Co., New York, reported, acquired Red River Oil Co.'s plant.

Tex., Graham—Texas-Louisiana Power Co., Fort Worth, reported, constructing main line from Graham to Oil City at cost of \$48,000; use 6-in. welded pipe.

Tex., Houston—Planet Oil Co., capital \$25,000, incorporated; A. A. Foote, 1539 Waverly St.

Tex., Laredo—Penny Production Co., capital \$25,000, incorporated; M. N. Lenoir, F. A. Talmadge.

Tex., Temple—Texas Pacific Coal and Oil Co., Gen. Office Thurber, advises nothing definite done at this time regarding construction of refinery, with no outlook for construction during next 2 months. 10-9

Tex., Tyler—Cotton Belt Oil Corp., capital \$40,000, incorporated; Sid Carlton, John C. Wood.

Va., Hampton Roads, Branch Norfolk—Harrison-Wright Co., 4 W. Third St., Charlotte, N. C., reported, low bidder at \$76,000 for construction additional fuel oil facilities, including fuel tank, addition to pump house, pumps and equipment, at Hampton Roads Naval Operating Base for Bureau of Yards and Docks.

Va., Waynesboro—Waynesboro Gas and Oil Co., Inc., capital \$25,000, chartered; D. T. Coiner.

### Ice and Cold-Storage Plants

Tex., Dallas—Crystalo Co., incorporated; Wallace D. Carr, 4211 Lorraine St.

### Land Development

Florida—A. E. Davenport, Oak Park, Ill., reported, acquired 3500 acres citrus lands in Orange County from Orlando Orange Groves Co.; will retain name of Avalon Orange Groves Co., Inc.; plans future development.

Fla., Fort Lauderdale—McArthur Jersey Farm Dairy, Inc., chartered; J. N. McArthur, W. C. Myers.

Fla., Jacksonville—Titanium Pigment Co., Inc., Carondelet Station, St. Louis, Mo., advises regarding real estate development work at Jacksonville; at present are only doing a small amount of dredging work and land clearing; there will be no contracts, at least for present, on any of the work; all of work by company's forces; all equipment which company will require has been purchased. 8-29-29

Fla., Key West—T. Jenkins Curry, incorporated; L. M. Bissell, H. D. Stewart.

Fla., Miami Beach—Virginia Key Development Co., F. H. Rand, Jr., Pres., 12th Floor Huntington Bldg., reported, plans development of 320 acres on Virginia Key south of Miami Beach; W. E. Brown Engineering Co., Engrs., Bastian Bldg.

Fla., Miami—Hollywood, Inc., Leon C. Herrick, Pres., Grand Concourse Apts., organized to refinance and enlarge developments of Hollywood-by-the-Sea, 17 miles from Miami; company is owned and directed by representatives of Highway Construction Co. of Ohio, and Mercantile Investment and Holding Co. of Indianapolis.

Fla., Panama City—Cove Realty Co., Inc., chartered; C. W. Ford, J. B. Ingram, Jr.

Fla., St. Petersburg—Lucile W. Voght, Inc., chartered; H. C. Chubb, First Natl. Bank Bldg.

Fla., Palmetto—Peerless Fruit Co., incorporated; C. I. Dingfelder, P. Soperstone.

Fla., Key West—T. Jenkins Curry, Inc., chartered; T. J. Curry, M. E. Freeman.

Ga., Savannah—L. H. Smith & Co., 10 Drayton St., capital \$250,000, incorporated; L. H. Smith, J. F. Stebbins; develop 600 acres edge of city for industrial and agricultural units, 5 acres each; install drainage, road building, electric water plant; erect 10 buildings; S. G. Lincoln, Archt.; Jas. Y. Wooten, Gen. Contrs., 1004 E. 48th St.; M. F. Smith, Constr. Engr.; J. E. Breckenridge & Son, Landscape Archts., 506 E. 33rd St. See Want Section—Building and Supplies. 12-4

Ky., Shelbyville—Shelby County Golf Club develop 9 hole golf course.

Mo., Kansas City—Suburban Development Co., capital \$24,000, incorporated; H. F. Glese, 7427 Frost St.

Mo., St. Louis—Illmo Farms, 3662 Olive St., capital \$20,000, incorporated; Fex R. Bailey, 2631 Maine St., Quincy, Ill.; True D. Morse, 7770 Wise St., St. Louis.

N. C., Chimney Rock—Consolidated Realty Co., Rutherfordton, reported, acquired real estate holdings of Chimney Rock Mountains, Inc., including 6000 acres land in and around Lake Lure.

N. C., Greensboro—Whorton & Co., capital \$500,000, incorporated; E. P. Whorton, American Exch. Bank Bldg.

Okla., Oklahoma City—City, E. M. Fry, City Mgr., votes Dec. 16 on \$550,000 bonds for purchase of park property. 11-27

Tex., Beaumont—A. B. Sawyer, Pres., Jefferson Drug Co., Grand and Long Sts., purchased and will develop 613 acres in Tyler County for hunting and fishing resort; will fence; construct lake, build lodge, etc.

Tex., Brownsville—Pentec Co. incorporated; William Cabler, Sr., John C. Cosgrove.

Tex., Fort Worth—The Continental Co. incorporated; L. A. Austin, Texas Natl. Bldg.

Tex., Houston—Wagner Realty Corp., capital \$20,000, incorporated; Albert A. Bath, 609 Avondale St.

Tex., Houston—City, reported, develop 70 acre tract for John T. Mason Memorial Park.

Tex., Houston—Main St. Properties, Inc., capital \$50,000, incorporated; J. W. Hazard, 1810 Travis St.

Tex., Houston—MacGregor Drive Realty Co., capital \$375,000, incorporated; W. G. Priester, Medical Arts Bldg.

Tex., Lubbock—City, C. H. Mahoney, Chmn., City Park Bd., plans development of McCrummen Park; will grade, lay water mains and install lights.

Tex., Raymondville—Scheidler & Cole, Inc., incorporated; W. J. Scheidler, C. H. Cole.

Tex., San Antonio—Main-Elmira Co. incorporated; Elmer A. Dittman, City Central Bank Bldg.

Tex., San Antonio—Sunco Land Co. incorporated; Harvey McDonald, 2027 Arbor St.

Tex., San Benito—Sams-Porter Corp. incorporated; Dean Porter, Lyle Bassett.

### Lumber Enterprises

Ark., McDermott—W. B. Bynum, reported, rebuild burned stave and heading mill.

Georgia—Knabb Turpentine Co., Wm. Knabb, Macclenny, Fla., reported, acquired real estate holdings of estates of Richard Powers, consisting of 6155 acres virgin long leaf pine; saw mill timber on tract has been purchased by J. C. Walters & Co., Thomasville, Ga.; will establish saw mill at Macclenny; Knabb Turpentine Co. will probably establish plant for manufacturing naval stores products.

Mo., St. Louis—Gravos-Cherokee Lumber Co., incorporated; J. H. Kramer, 3118A Lackland Ave.

Tenn., Memphis—Ford Hardwood Lumber Co., L. W. Ford, Pres., Florida Ave., reported, rebuild burned plant.

### Miscellaneous Construction

D. C., Washington—Office of Executive Office, Arlington Memorial Bridge Comsn., Navy Bldg., opens bids Dec. 30 for furnishing, finishing, delivering and setting granite blocks for pedestals of four equestrian groups to be erected on bridge plaza, east end of Arlington memorial bridge. See Want Section—Bids Asked.

D. C., Washington—Navy and Marine Memorial Association, of which Charles Francis Adams, Secretary of Navy, is honorary chairman, broke ground for \$500,000 Navy and Marine memorial, Potomac Park; base, 138x120 ft., sea green granite; foundation work to begin immediately; Harvey Wiley Corbett, Archt.; Bengi del Piatta, Sculptor; Lieut. F. B. Butler, Asst. Director of Public Buildings and Public Parks of National Capital.

Fla., Miami Beach—City, Ed. R. Neff, City Engr., has low bid from Geo. E. Bunnell, Inc., 46 N. E. 47th St., Miami, for constructing approx. 239 lin. ft. sea wall, Surprise Waterway. 11-27

Fla., Miami Beach—Joseph H. Adams Foundation, Belle Island, authorized by Miami City Comsn. for constructing bulkheads, dredging and filling for erecting island to connect with present 79th St., in connection with proposed "Sun Ray Club."

Fla., Miami Beach—Virginia Key Development Co., F. H. Rand, Jr., Pres., Huntington Bldg., Miami, has bids in for 16,000 lin. ft. wooden bulkhead, dredging and filling submerged lands, dredging 13,000 lin. ft. inland canals, Virginia Key, south of here, including causeway from south end of Point View to the key; W. E. Brown Engineering Co., Engr., Bastian Building, Lincoln Road, Miami Beach.

La., New Orleans—Bd. of Commrs. of Port of New Orleans, New Courthouse Bldg., has low bid from Thomas Carey, Pan American Bldg., at \$44,983, for constructing conc. wharf deck and incidental work at Bienville St. wharf.

La., New Orleans—Virginia Bridge & Iron Co., 3900 Eighth Ave., N., Birmingham, Ala., has contract for 100 tons steel for dock work of Bd. of Commrs. of Port of New Orleans, New Orleans Court Bldg.

Miss., Belzoni—Bd. of Commrs. of Bear Creek Drainage Dist., Belzoni, Humphreys, Sunflower and Leflore Counties, reported, retained C. E. Miller, Engr., Belzoni, to draw plans for 9,000,000 cu. yd. ditches, 1,000, 000 cu. yd. levees.

Mo., Dover—U. S. Engr. Office, Postal Telegraph Bldg., Kansas City, let contract to Massman Construction Co., American Bank Bldg., Kansas City, at \$458,000, for 8180 ft. standard pile dikes, 1640 ft. crib dikes and 10,000 ft. standard revetment. Sheeps Nose Bend, Missouri River. 11-27 and 12-4

Mo., Dover—U. S. Engr. Office, Postal Telegraph Bldg., Kansas City, has low bid from Woods Bros. Construction Co., 132 S. 13th St., Lincoln, Neb., at \$166,880, for 6690 lin. ft. standard pile clump dikes, Missouri River, Berlin Bend. 11-16

Mo., Kansas City—Chief of Engrs., U. S. Army, Washington, authorized constructing 6585 lin. ft. standard pile clump dikes, Missouri River, Chamolis Bend, mile 125.6 above mouth; U. S. Engr. Office, Postal Telegraph Bldg., Kansas City, soon call for bids.

Mo., Kansas City—City, M. S. Murray, Director of Public Works, reported, call bids within 60 days for constructing \$1,500,000 municipal docks on state line and for revamping Main St. wharf. 11-13

Mo., St. Louis—U. S. Engr. Office, Customhouse, has low bid from C. W. Hunter Co., 177 S. Front St., Memphis, Tenn., at \$373,475, for 10,000 lin. ft. piling dike, Missouri River, Bonhomme Bend. 11-13

Mo., St. Louis—City, Bd. of Public Service, has preliminary plans for brick and conc. crematory, including chapel and repository near Potters Field, south of Arsenal St.; \$25,000; private plans.

Mo., Wellington—U. S. Engr. Office, Postal Telegraph Bldg., has low bid from W. A. Ross Construction Co., 908 W. 25th St., at \$440,775, for 16,405 lin. ft. dikes and 5950 lin. ft. standard revetment, Missouri River, Camden Bend, Sni Bend and Lexington Beach, 4 mi. from here. 11-6

Okla., Oklahoma City—City, E. M. Fry, Mgr., votes Dec. 16 on \$240,000 bonds for constructing incinerator.

Tex., Huntsville—State Game, Fish & Oyster Comsn., W. J. Tucker, Exec. Sec., Austin, opens bids Dec. 22 for \$21,000 fish hatchery near here; R. R. Tushek, Engr., Box 442, Huntsville. 11-27

Va., Fortress Monroe—Treasury Dept., Washington, D. C., opens bids Dec. 15 for constructing wharf and roofs at U. S. quarantine station, Craney Island.

Va., Hopewell—City, William A. Spencer, Mayor, plans terminal and docking facilities.

Va., Langley Field, Hampton—Constructing Quartermaster, Fort Monroe, opens bids Jan. 2 for constructing sea wall and embankment.



Va., Marion—State Comsn. of Game and Inland Fisheries, Richmond, Judge Wm. S. Snow, Member, Alexandria, constructing trout hatchery; also plans building hatchery in Shenandoah Valley for small-mouthed trout.

W. Va., Prince—Chesapeake & Ohio Ry. Co., C. W. Johns, Ch. Engr., Richmond, Va., let contract to Carpenter, Major Bros. & Co., Inc., Clifton Forge, Va., for enlarging double tracking at Stretcher's Neck Tunnel; present single track tunnel 1900 ft. long will be shortened by 300 ft. at west end and made open cut, requiring moving 500,000 cu. yd. material, this portion of work sub-let to Piper & East, Princeton, W. Va.; present single track tunnel which is not lined, rock being self supporting, will be enlarged to double track tunnel for 1600 ft., this portion of work to be handled by Boxley Bros. Co., Orange, Va., as partners with general contractors; present tunnel to be enlarged under traffic; total cost, \$1,000,000.

### Miscellaneous Enterprises

Ala., Silverhill—Sterling National Life Insurance Co., capital \$150,000, incorporated; Dr. O. F. E. Winberg, E. T. Teter.

Ark., Camden—Chamber of Commerce, reported, negotiating with Hoover Mfg. Co. (Mfrs. Dress Garments) for establishment of plant; leased portion of Berg Bldg., E. Washington St.

Ark., Fort Smith—Jim Nelson Garment Co., Okmulgee, Okla., leased Schaap Bld., 215 Garrison Ave.; establish garment plant.

Fla., Jacksonville—Chevrolet Motor Co., 3044 Grand Blvd., Detroit, Mich., reported, announced plans for establishment of assembly plant for truck bodies; serve all Florida and South Georgia.

Fla., Samsula—Samsula Turpentine Co., capital \$20,000, incorporated; F. C. Powell, G. L. Arnold.

Ga., Atlanta—Dr. Pepper Bottling Co., 429 Second St., Dallas, Tex., reported, leased location 271 Boulevard N. E., establish bottling plant.

Ga., Swainsboro—Gilbert Beers Co., Bona Allen Bldg., Atlanta, Ga., reported, has contract for bottling plant for Coca Cola Bottling Co. of Alabama, 1010 Gurnee St., Anniston, Ala.; 2 story, 58x21 ft. and 42x32 ft. rein. conc., brick walls, tile and comp. roof. 11-20

Ky., Camp Taylor—Kentucky Loose Leaf Tobacco Co., incorporated; J. G. Larrimore, S. W. Larrimore.

Ky., Elizabethtown—Tabb-Fryrear Transit Co., incorporated; H. E. Tabb, George Fryrear.

Ky., Louisville—Federal Dist. Judge John Gore, Nashville, Tenn., approved purchase of control of Inter-Southern Life Insurance Co. of Keystone Holding Co. of Hammond, Ind.

La., Alexandria—George McHugh's, Independence, Kansas, reported, considering establishment poultry hatchery, capacity 9000 chicks per week.

La., Baton Rouge—Louisiana Creamery, Inc., John Cadwallader, Gen. Mgr., L. S. A. Campus, reported, considering erection of creamery.

Md., Baltimore—Chesapeake Carpet Cleaning Co., 1710 Edmondson Ave., will receive bids about Dec. 15 for alteration and probable addition to carpet cleaning plant; brick, 2 story, 62x135 ft.; Kubitz & Koenig, Archts., Emerson Tower. 11-6

Md., Childs—Maryland Paper Board Co., Walter G. Leimback, 7 St. Paul St., Baltimore, plans alteration to plant at Childs' Station near Elkton; C. T. Gardner, Bldr., Childs.

Miss., Greenwood—City, John Ashcraft, Mayor, plans voting Dec. 16 on \$12,000 bonds for purchase of fire department equipment.

Miss., Meridian—Orr Mfg. Co., Inc., 1616 Seventeenth St., capital \$50,000, J. A. Orr, Pres., will manufacture and distribute device known as Orr's automatic radiator drain; temporary quarters 4th St. and 17th Ave.; contemplated equipment will permit of turning out daily 300 to 400 of completed devices, ready for application to any make automobile. 11-20

Mo., Bolivar—Bolivar Coca Cola Bottling Co., capital \$50,000, incorporated; Edwin P. Kleeman, Bolivar; Ike Kleeman, Clarksville, Tenn.

Mo., Bowling Green—Bowling Green Mineral Springs Co., capital \$50,000, incorporated; R. A. Mitchell, 3509 Arsenal St., St. Louis.

Mo., Kansas City—Home Rug & Curtain Cleaning Co., 4728 Forest Ave., will construct 3 story addition to plant; cost \$20,000.

Mo., Kansas City—Dr. Barnums, Inc., capital \$150,000, incorporated; Kenneth R. Barnum, 3641 Broadway; manufacture cosmetics.

Mo., Kansas City—City Wet Wash Laundry, Inc., 2608 E. 26th St., capital \$25,000, incorporated; Morris Coretz, 3324 Agnes Ave.

Mo., St. Louis—Thermo Electric Co. incorporated; Frank S. Dodge, 11 W. Big Bend Road.

Mo., St. Louis—Vulrox Mfg. Co. incorporated; C. Norman Jones, 810 Chestnut St.; manufacture non-corrosive and insulating materials.

Mo., St. Louis—Dreste Radiator Shield & Enclosure Co. incorporated; George A. Delf, 2131 Forest St.

Mo., St. Louis—Winmen Incinerator Co., incorporated; George P. Burleigh, 317 N. 11th St.

Mo., St. Louis—Marge-Maid Dresses, Inc., chartered; M. Schroeder, 3516 Bamberger St.

N. C., Albemarle—Albemarle Dairy Co., incorporated; Russell A. Eldridge, 215 E. Washington St., Hagerstown, Md.; will renovate building; establish creamery.

N. C., Canton—The Champion Fibre Co. advises report of expansion program was premature as company has made no definite decision in this matter as yet. 10-20

N. C., Greensboro—Jefferson Standard Life Insurance Co., reported, acquired majority stock control of Pilot Life Insurance Co.

N. C., High Point—Hicks Mfg. Co., capital \$25,000, incorporated; M. T. Hicks, 322 W. Russell St.; manufacture novelties.

N. C., Laurinburg—Armour & Co., Union Stock Yards, Chicago, Ill., reported, signed contract with McNair Investment Co. for constructing building James St. for wholesale distributing plant; 75x125 ft.; brick; install modern mechanical refrigerating equipment; will move plant from Hamlet.

N. C., Winston-Salem—Chatham Mfg. Co., Chatham, let contract to Clyde C. Culler, Nissen Bldg., for erection of building on Reynolds Rd. to be leased by Dr. Pepper Bottling Co.; 53x70 ft., 1 story with basement, brick, steel and conc.

Okla., Oklahoma City—City votes Dec. 16 on bonds for fire equipment. See Financial News Columns.

Okla., Oklahoma City—General Motors Corp., Detroit, Mich., reported, will establish assembly plant, 2-4-6 W. Eleventh St., for new commercial body division; will be known as Commercial Body div. of Chevrolet Motor Co., 3044 Grand Blvd., Detroit, Mich.

S. C., Anderson—Consolidation, reported, of Daily Mail and Anderson Independent; will be owned and operated by Independent Publishing Co., Wilton E. Hall, Pres.; plants will be consolidated into the Independent Bldg. 11-27

Tenn., Chattanooga—Southern Dairies Co. subsidiary of National Dairy Products Corp., 120 Broadway, New York, reported, plans erecting ice cream plant.

Tex., Beaumont—P. N. Anger, 660 Prairie St., O. R. Thompson, Houston, and associates organizing company to manufacture paint and tile from magnesite, magnesium chloride compounds.

Tex., Cuero—Crescent Valley Creamery, J. E. Wayne, let contract to J. D. Young for \$20,000 improvements to plant; 33x80 ft.; hollow tile and rein. conc.; install new equipment.

Tex., Dallas—Southern Factories Corp. incorporated; L. A. Rodgers, 416 S. Burnett St.

Tex., Houston—The Western Corp., capital \$31,000, incorporated; M. C. Fantham, 3118 Austin St.; construction.

Tex., San Antonio—Houston Building Corp. incorporated; J. H. Frost, Fredericksburg Road.

Tex., Port Arthur—City, reported, let contract to Gamewell Co., Newton Upper Falls, Mass., for fire alarm system; cost \$35,000.

Va., Richmond—Hagerstown Coca Cola Bottling Works, Inc., capital \$150,000, chartered; Walter L. Sams, 1600 Palmyra Ave.

### Motor Bus Lines and Terminals

N. C., Greensboro—Barnard Bus Lines, Inc., reported, granted permission by Public Utilities Comsn., Washington, D. C., for bus line Greensboro to Washington via Fredericksburg, Va.

Tenn., Nashville—Lewis T. Ladd, granted permission by State Railroad & Public Utilities Comsn., Nashville, to operate passenger bus line over highway No. 100, between Centerville and Nashville; Smith Motor Coach Co., 144 N. Front St., Memphis, granted permission to operate passenger line between Milan and McKenzie via Atwood and Trazevant.

Tenn., Nashville—Holland Transfer Co., 132 Fifth Ave., S., granted permission by State Railroad and Public Utilities Comsn. to change name to Fayetteville Transfer Co.; will operate between Nashville and Alabama State Line, via Columbia and Fayetteville.

Tex., Corpus Christi—Emelico Colunga and associates granted franchise to operate motor bus.

Tex., Waco—Paul Garza applied to Texas Railroad Comsn., Austin, for permission to operate Class A motor freight line from West to Waco.

Va., Lee Hall—Peninsular Transit Corp. chartered; J. M. Dozier.

W. Va., Charleston—Capitol-Greyhound Lines, Arthur M. Hill, Pres., South Side, formed by consolidation of lines of Blue and Grey Transit Co. from Chillicothe, O., to Parkersburg, from Parkersburg through Clarksburg and Grafton to Winchester, Va. and line of Greyhound Lines, Inc., from St. Louis to Cincinnati; will operate Washington to St. Louis; principal office in Cincinnati.

### Railways

Ky., Louisville—Louisville & Nashville R. R. Co., H. T. Shanks, Pur. Agt., reported, inquiring for 80,000 tons steel rails.

La., New Orleans—See Bridges, Vultures and Viaducts.

La., Shreveport—Louisiana & Arkansas Ry. Co., H. C. Couch, Pres., applied to Interstate Commerce Comsn., Washington, for permission to issue \$607,000 first mortgage 5% bonds for improvements.

Mo., St. Louis—Cleveland, Cincinnati, Chicago & St. Louis Ry., P. E. Crowley, Pres., subsidiary of New York Central R. R. Co., both New York, applied to Interstate Commerce Comsn., Washington, for permission to issue \$5,000,000, 4½% refunding and improvement bonds to be delivered to New York Central R. R.

Okla., Miami—Missouri Pacific R. R. Co., L. W. Baldwin, Pres., purchased controlling interest in Northeast Oklahoma R. R. Co. (Electric), G. L. Coleman, Pres., 77 ml. of line.

Tex., Childress—Fort Worth & Denver Northern Ry., subsidiary of Chicago, Burlington & Quincy Ry. Co., A. W. Newton, Ch. Engr., Chicago, Ill., let contract to Speer Contracting Co., Alford, for grading first 10 ml. of branch line, Childress to Pampa. 8-21

Tex., San Antonio—Gulf & West Texas Ry. Co., R. W. Morrison, Pres., 239 W. Mistletoe St., San Antonio, applied to Interstate Commerce Comsn. for permission to sell 3000 shares common stock to finance survey, location and construction of proposed line, Fredericksburg to San Angelo, costing over \$5,000,000. 8-7

### Railway Shops and Terminals

W. Va., Handley—Chesapeake & Ohio Ry. Co., C. W. Johns, Ch. Engr., Richmond, let contract to W. P. Thurston Co., Inc., 301 S. Fourth St., Richmond, Va., for extension of 6 stalls of roundhouse at \$40,287.

### Roads, Streets and Paving

In connection with LAND DEVELOPMENT large sums are expended for roads, streets, paving and sidewalks. Details will be found under that classification.

### Proposed Construction

Alabama—State Highway Comsn., Montgomery, opens bids Jan. 6 for 4.25 ml. grading and paving, Route No. 2, at Jasper, and for bridge over Cane Creek between Jasper and Parrish, Walker County.

Ala., Gadsden—City will lay cement sidewalks and curb and gutter several streets.

Ark., Fayetteville—Washington County Highway Comsn., J. Lona Slaughter, County Judge, plans repaving S. School St.

Ga., Savannah—Chatham County Comms. open bids Dec. 26 for 4.44 mi. building and paving; Whitfield and Montgomery roads. Montgomery Cross Roads to Montgomery; limestone base, light surface treatment, tar prime.

**KENTUCKY**—State Highway Comsn., H. D. Palmore, Engr., Frankfort, opens bids Jan. 14, 1931, for 4 roads, grading, draining and surfacing unless otherwise designated: **Anderson-Woodford Counties**—4.1 mi. approaches to Tyrone bridge, F. A. 208 AGS; **Clark-Madison Counties**—1.3 mi. approaches to Boonesboro bridge, F. A. 167 AGS; **Pulaski County**—0.8 mi. approaches to Burnside bridge; **Webster County**—0.58 mi. Main St., Clay, junction of Tradewater Trail and Dixon-Clay road southwardly to point in Tradewater Trail.

**KENTUCKY**—State Highway Comsn. H. D. Palmore, Engr., Frankfort, opens bids Feb. 18 for 6 roads, grading, draining, surfacing:

**Henderson County**—3.4 mi. approaches to Spottsville bridge, F. A. 206 AGS; 2.7 mi. approaches to Ohio River bridge near Henderson, F. A. 200 AGS;

**Livingston County**—1.8 mi. approaches to Smithland bridge;

**Marshall-Trigg Counties**—2.3 mi. approaches to Eggers Ferry bridge, F. A. 218 AGS;

**McCracken-Livingston Counties**—4.7 mi. approaches to Tennessee River bridge near Paducah, F. A. 207 AGS;

**Trigg County**—2.0 mi. approaches to Canton bridge, F. A. 217 AGS.

Ky., Ashland—City Bd. of Councilmen voted to appropriate \$25,000 as city's share of \$300,000 overpass and highway improvement, W. Winchester Ave.; opens bids Dec. 16 for widening Winchester Ave. approach to proposed overpass; State Highway Comsn., H. D. Palmore, Engr., Frankfort, to bear remainder of cost and supervise construction of overpass.

Louisiana—State Highway Comsn., O. K. Allen, Chmn., Baton Rouge, opens bids Jan. 6 for 11.6 mi. conc., Vermilion Parish, between Kaplan and Abbeville, part of \$6,000,000 letting. 12-4

Louisiana—State Highway Comsn., O. K. Allen, Chmn., Baton Rouge, opens bids Jan. 6 for 17 road projects totaling 77.2 mi. grading, draining and 36.4 mi. grading and gravel or shell surfacing, part of \$6,000,000 letting, in following parishes: Terrebonne, Terrebonne-Assumption, Lafourche, St. Landry, Lafourche, St. Charles, Caldwell-Lasalle, Bienville, Richland, Jackson-Winn, Vernon, Franklin, Plaquemine, Allen-Beauregard, Sabine, Rapides. 12-4

La., Shreveport—Caddo Parish Police Jury opens bids Jan. 2 for grading, draining road, Soda Lake Bridge to connect with U. S. Route 71 south of Dixie; J. T. Bullen, Parish Engr.

La., Winfield—Swanson-McGraw, Inc., Const. Engr., Balter Bldg., New Orleans, making survey for additional sidewalk paving.

Md., Baltimore—Bd. of Awards, Office of City Register, opens bids Dec. 17 for grading, cement conc. paving footways in Footway Repair Cont. 6, 8000 sq. yd. conc.; Nathan L. Smith, Highways Engr.

Md., Hyattsville—Town plans paving lower end of Ravenswood Ave.

Miss., Carthage—Town, Mayor and Bd. of Aldermen, open bids Dec. 15 for vit. main-taining streets for year of 1931.

Miss., Grenada—City, Mayor and Bd. of Aldermen, has low bid from Merrill Engineering Co., Lamar Bldg., Jackson, for paving streets. 11-27

Miss., Greenwood—City, Bonner Duggan, City Clk., opens bids Dec. 15 for vit. brick paving several streets.

Miss., Tupelo—Tunica County Supvrs., L. C. Shannon, Clk., rejected all bids for 1 mi. graveling, Beat 3. 11-13

**MISSOURI**—State Highway Comsn., T. H. Cutler, Ch. Engr., Jefferson City, opens bids Dec. 19 for 37 roads and 25 bridges, gravel unless otherwise designated:

**Dekalb County**—2.892 mi. Malsville-Fairport, 12,240 cu. yds. excavation, 2922 cu. yds. paving, SA-2;

**Nodaway County**—1.034 mi. 30-ft. graded earth, Ravenwood west, 19,839 cu. yd. excavation, 196,000 lb. struc. steel, truss bridge over Platte River 308B; 4.518, 4.375 mi. Route 71-Graham, 16,520 cu. yd. excavation, 3266 cu. yd. paving, bridge over Geyer Creek, I-beam bridge over Rain Creek, SA-1A, SA-2;

**Audrain County**—1.212 mi. Route 63-Centralia, 16,839 cu. yd. excavation, 1519 cu. yd. paving, 22-1A;

**Randolph County**—0.536 mi., Route 63-Centralia, 5034 cu. yd. excavation, 22-1;

**Monroe County**—3.346 mi., Route 15-Santa Fe, 3152 cu. yd. paving, SD-3A; 2.898, 3.182 mi., Route 15 west, 5762 cu. yd. paving, SM-1A, SM-2A;

**Clay County**—bridge near Liberty, 1 40-ft., 2 50-ft. deck girders, 35TR-16;

**Franklin County**—4.670, 4.811, 4.740 mi. 20-ft. conc., Union-Leslie, 160,702 cu. yd. excavation, 167,508 sq. yd. paving, 326D, 326E 326F;

**Gasconade County**—4.964 4.884 mi., Cuba-Owensville, 212,998 cu. yd. excavation, 16,690 cu. yd. paving, double box bridge over Dry Branch, deck girder bridge over Red Oak Creek, box bridge over creek, 2 I-beam bridges over Dry Fork and Bourbeuse River, 19AF-86, 19AP-87, SE-1;

**Warren County**—2.799 mi., Hopewell-Holstein, 29,698 cu. yd. excavation, 2637 cu. yd. paving, SN-1;

**Barton County**—4.848, 3.045 mi. chat, Golden City north, 101,604 cu. yd. excavation, 9857 cu. yd. paving, 2 double box bridges over branches, 2 I-beam bridges over Muddy Fork of Spring River and overflow of Muddy River, 160-11, 160-12;

**Dade County**—1.996 mi. chat, Barton County east, 35,295 cu. yd. excavation, 29,500 lb. struc. steel, 2487 cu. yd. paving, I-beam bridge over Kyle Creek, 160-14;

**Lawrence County**—0.582 mi., Greene County west, 18,994 cu. yd. excavation, 1023 cu. yd. paving, deck girder bridge over Turn Back Creek, 38-16;

**McDonald County**—20,025 lin. ft. cable guard fence, Arkansas Line-Anderson, 71;

**Newton County**—0.953 mi., through Seneca, 5604 cu. yd. excavation, 42,050 lb. struc. steel, 2 I-beam bridges over creeks, Ref. 2; 3.624, 3.938 mi. 20-ft. conc., Neosho-Granby, 112-555 cu. yd. excavation, 89,983 sq. yd. paving, 60-5, 60-6;

**Cedar County**—3.920 mi., Jerico Springs-Route 39, 3693 cu. yd. paving, SB-2;

**Greene County**—3.579, 4.010 mi. chat, Republic west, 63,836 cu. yd. excavation, 8281 cu. yd. paving, bridge over Pickerel Creek, 38-17, 38-18;

**Polk County**—3.712, 3.353, 3.452, 4.418 mi., Hickory County-Bolivar, 23,020 cu. yd. excavation, 9774 cu. yd. paving, SA-4, SA-5, SA-6, SA-7;

**Taney County**—2.282 mi., Forsyth-Ozark Beach, 16,073 cu. yd. excavation, 2150 cu. yd. paving, Ref. 1;

**Wright County**—2.510, 4.780 mi., Hartville-north, 58,526 cu. yd. excavation, 9230 cu. yd. paving, 5-80, 5-81;

**Mississippi County**—2.936, 2.541 mi. 24-ft. graded earth, Ref. 4-Route 55, 40,633 cu. yd. excavation, I-beam bridge over Maple Slough Ditch, Ref. 8A, Ref. 8B;

**Ripley County**—4.960 mi., Doniphan south, 130,198 cu. yd. excavation, 6173 cu. yd. paving, 8 I-beam bridges over Brian and Ponder Creeks, 2 box bridges over Mulberry and Mill Creek.

Mo., Troy—City has plans complete, soon take bids for paving Main St.; Russell & Axon, Engrs., 6200 Easton Ave., St. Louis, and McDaniel Bldg., Springfield.

Mo., Westplains—Pomona Special Road Dist. of Howell County, Anna Lasater, Clk., plans building roads.

Mo., Washington—City plans improving Jefferson Ave. with limestone rock.

N. C., High Point—City, C. A. York, Mayor, plans resurfacing streets.

Okla., Britton—City, D. A. Riley, Clk., soon take bids for 2900 yd. cold rolled asphalt; Peckham & Riggins, Engr., Oklahoma City.

Okla., Oklahoma City—City, George F. Brown, City Engr., plans paving Indiana Ave.

Okla., Tulsa—City Comms. approved plans by H. A. Parker, City Engr., for paving 2 blocks Fifth Avenue cut-off between Seventh and 11th St.; Earl E. Logan, City Auditor, authorized to advertise for bids; approved plans for paving Yorktown Ave., costing \$38,172; referred petitions to City Engr. for improving Elgin Ave. and Fifth Place.

Okla., Wewoka—Seminole County, Ellis Cooper, Clk., has plans in progress for 12 mi. grading south of here; W. R. Grace, Engr.

**SOUTH CAROLINA**—State Highway Comsn., C. E. Jones, Chmn., has low bids for 10 roads:

**Saluda-Newberry Counties**—2.965 mi. top soiling, Route 19, being approaches to Saluda River bridge, C. M. Lyle Construction Co., Gainesville, Ga., \$28,764;

**Chesterfield County**—11.533 mi. grading, Route 9, Newell Contracting Co., Greenville, \$40,967; 18.733 mi. grading, Route 9, Carroll-Suber Contracting Co., Columbia, \$42,132;

**Colleton County**—5.675 mi. clay gravel surfacing in preparation for surface treatment, Route 64, Gibson Construction Co., Walterboro, \$63,165;

**Oconee County**—4.442 clay bound macad. surfacing, Route 18, C. M. Lyle Construction Co., \$61,223;

**Newberry County**—7.442 mi. top soiling in preparation for surface treatment, Route 391, Carroll-Suber Contracting Co., \$29,534;

**Clarendon-Williamsburg Counties**—17.345 mi. sand clay surfacing in preparation for surface treatment, Route 261, Beckham-Lawler Construction Co., Inc., Perry, Ala., \$97,257;

**Spartanburg-Greenville Counties**—21.106 mi. grading, U. S. Route 170, W. W. Tuck & Son, Greenwood, \$140,591;

**Lancaster-Chester Counties**—4.398 mi. top soiling in preparation for surface treatment, Carroll-Suber Contracting Co., \$47,113;

**Kershaw County**—18.066 mi. soiling and sand clay surfacing in preparation for surface treatment, Route 97, Smith & Bardfield, Macon, Ga., \$168,656. 11-27

South Carolina—State Highway Comsn., C. E. Jones, Chmn., Columbia, reported, let contract after Dec. 15 for 150 to 200 miles of paving and several large bridges, costing \$4,000,000 to \$5,000,000.

**TENNESSEE**—State Dept. of Highways and Public Works, T. E. McEwen, Engr., Nashville, has low bids for road and 6 bridges:

**Cooke County**—conc. and steel bridge over French Broad River, near Bridgeport, F. A. P. 216-B, Whiting-Turner Construction Co., Stewart Bldg., Baltimore, Md., \$101,461;

**Jackson County**—conc. and steel bridge over Cumberland River, near Fort Blount, Whiting-Turner Construction Co., \$185,375;

**Jefferson County**—8.40 mi. grading, Dandridge to Cooke County line, F. A. P. 328-D, Cont. 1, Nello L. Teer, Geer Bldg., Durham, N. C., \$59,355; 3 conc. bridges, Dandridge to Cooke County line, F. A. P. 228-D, Lebanon Bridge Co., Springfield, Tenn., \$30,521;

**Smith County**—conc. and steel bridge, between Carthage and Elmwood, F. A. P. 229-A, Cole & Moore, Paducah, Ky., \$145,821.

Tenn., Chattanooga—City, Roger Crox, Commr., plans resurfacing St. Elmo Ave.

Tenn., Chattanooga—City, E. D. Bass, Mayor, considering paving Edgewood Circle.

Tenn., Knoxville—City Council appropriated \$150,000 for street repairs, cleaning ditches, streets, alleys and other work.

Tenn., Memphis—Shelby County Comms., E. W. Hale, Chmn., Courthouse, has low bid from F. S. Neely, 669 Maury St., at \$33,170, for improving Hollyford Road.

**TEXAS**—State Highway Comsn., Gibb Gilchrist, Engr., Austin, has plans in progress, funds appropriated for 2 roads:

**Rusk County**—5.1 mi. base repairs and asphalt seal coat treatment, Highway 64, Henderson west, \$5100;

**Chambers County**—5 mi. shell resurfacing, Highway 61, Anahuac north, \$18,000.

Tex., Port Lavaca—Calhoun County, E. M. Tanner, Judge, plans 1.844 mi. grading, draining, Highway 57, Port Lavaca to west shore of Lavaca Bay, \$17,000; P. D. Bushong, Res. Engr.

Tex., Seguin—Guadalupe County, J. B. Williams, Judge, plans 12.435 mi. grading, draining, Highway 123, south city limits of Seguin to Wilson County line, F. A. P. 536, Unit 1, \$126,000; Capt. A. Schlafi, Res. Engr.

Tex., Waxahachie—Ellis County, Roca A. Stoutt, Judge, plans grading, draining, Highway 14, including large bridges, F. A. P. 384-B and 507B; A. C. Love, Res. Engr., Ennis.

Texas—State Highway Comsn., Gibb Gilchrist, Engr., plans 7 road projects; take bids in January for grading, draining, Highway 11, Gainesville to Grayson County line; ordered calling for bids on 15 mi. of Highway 19 south of Crockett and 4 mi. grading, draining, paving near Trinity County line; ordered survey of Highway 8, Cail Junction to Buna, Jasper County, preparatory to permanent improvement; agreed to pay share of cost of paving Highways 45, 8 and 63 through City of Jasper; engineers ordered to relocate Highway 45 out of city; bids ordered taken on grading, draining, Highway 45, Jasper to Neches River; estimates ordered prepared on Highway 76, Center to Joannin, Shelby County; ordered bids taken on 11 mi. paving, Highway 65, Pleasant to Pittsburgh, including underpass, Titus County, as soon as right-of-way is secured.

Tex., Amarillo—City taking bids for curbing, guttering, alternate types paving 5 blocks; E. N. Stanley, Engr., City Hall.

Tex., Beaumont—City Comsn. ordered paving skips at 3 intersections.

Tex., Houston—City, W. E. Monteith, Mayor, has low bid from National Paving Co., 112 Buffalo St., for asphalt or brick paving, Chartres St., at \$46,908 and \$58,890, respectively; from Uvalde Rock Asphalt Co., 820 Dowling St., at \$16,971, for asphalt paving, Hill St.; from F. C. Youmans, 3359 Chevy Chase Drive, for 2-course bit. surface on Fulton St., at \$18,588; City Council ap-



proved plans for paving Crawford St., Texas to Franklin Ave., 52 ft. wide, costing \$24,500, and for improving 2 sections of Brazos St., costing \$40,200; approved plans for bridge over Brays Bayou, Telephone road, costing \$45,000; call for bids in few weeks for paving 1 1/4 mi., Lyons Ave.; J. M. Nagle, City Engr.; S. A. Starkey, Street and Bridge Commr.

Tex., Rosenberg — City plans expending \$50,000 for paving. See Financial News Columns.

Tex., San Angelo—City taking bids for 1-in. asphalt on 8-in. sledged stone paving, 6 blocks, 36 ft., \$35,000; French & French, Engrs., San Angelo.

Tex., Sweetwater—City Comsn. opens bids Dec. 15 for paving over 12 blocks streets.

Tex., Waco—City Comsn. soon let contract for paving Jefferson Ave.; J. H. Strange, City Engr.

Tex., Waco—McClennan County, W. T. Lockwood, County Auditor, opens bids Dec. 30 for approx. 5 mi. 20-ft. paving; Manton Hannah, County Engr.

Va., Richmond—State Dept. of Highways, C. S. Mullen Ch. Engr., will widen Richmond-Petersburg Turnpike, Bellwood to Petersburg, 11 ft.; \$500,000 allocated.

Virginia—State Dept. of Highways, C. S. Mullen, Ch. Engr., Richmond, reported, expend approx. \$1,000,000 in 1931 reconstructing Valley Turnpike, Shenandoah Valley, as continuance of reconstruction in progress.

West Virginia—State Road Comsn., George E. White, Sec., Charleston, opens bids Dec. 9 for 2 roads, being bridge approaches for grading and gravel surfacing; Den Run bridge approaches, Proj. 1098; Beatrice bridge approaches, Proj. 3377, both Ritchie County.

West Virginia—State Road Comsn., George E. Hite, Sec., Charleston, has low bids for 3 road and 3 bridge projects:

Mingo County—Vinson bridge, Price Construction Co., 27027 Third Ave., Huntington, \$51,866;

Tucker County—Davis bridge, West Virginia Bridge Co., Huntington, \$7181;

Putnam County—Guano Creek bridge, Skeen, McAlpin Co., Point Pleasant, \$12,696;

Marion County—1.62 mi. grading, draining, Fairmont-Grafton road, W. H. Armstrong & Co., Newton St., Fairmont, \$28,193;

Marshall County—125,000 ft. wire guard rail rope, State Routes 2, 30 and 22, Venable & Farkas, Marion Bldg., Charleston, 31 cents per lin. ft.

Hancock County—20,000 ft. wire guard rail rope, U. S. 250, Morris & Riggs, Sistersville, \$9750. 11-6

W. Va., Charleston—Kanawha County Court opens bids Dec. 17 for 2 roads: 1.7 mi. grading, draining, S. P. 2216, East Bank to Crown Hill, and 1.4 mi. grading, draining, Pratt to Handley, S. P. 2217.

#### Contracts Awarded

Ala., Birmingham—City, Eunice S. Hewes, City Clk., let contract to Fromhold Construction Co., 1768 Tuscaloosa, for 2780 sq. yd. conc. paving; to Hennig & Bragan, 2211 Second Ave., North, for brick track paving. 11-27

Ala., Gadsden—City let contract to Rast, Griffin & Jones, at \$38,149, for paving Noccalula road.

Ark., Bearden — Charles L. Beasler, Hot Springs, has contract for 1 mi. paving, Main St., at approx. \$30,000.

La., Monroe—Ouachita Parish, S. M. Collins, Parish Engr., start work at once with county forces on road building in Sub-road Dist. 2, authorized by \$50,000 bond issue, including grading, graveling several miles on Guthrie-Fairbanks and Lonewa-Loch Arbor roads.

La., Opelousas—Madison Parish Police July let contract to Forgy, Hanson & McCorkel, 607 S. Main St., at \$23,707, for earth embankment, gravel surfacing, culverts, etc., Trinidad-King-Afton road; P. O. Benjamin, Engr. in charge. 11-26

Miss., Grenada—City, Mayor and Aldermen, Willie Y. West, City Clk., let contract to Merrill Engineering Co., Lamar Bldg., Jackson, at \$21,309, for curbing, guttering, storm-sewering and paving, Commerce St., Highway 51.

Tenn., Chattanooga — City, E. D. Bass, Mayor, let contract to John A. Stein Contracting Co., James Bldg., at \$13,752, for sidewalks, Highland Park.

Fla., Ocala—City, J. R. Martin, City Mgr., let contract to Broadbent Construction Co.,

216 N. Magnolia St., for 2 blocks 1 1/2-in. asphalt surfacing, extension of Main St., at \$1.15 per sq. yd. 11-20

TEXAS—State Highway Comsn., Gibb Gilchrist, Engr., Austin, let contracts for 30 roads and bridge, all grading and draining work unless otherwise designated:

Harris County—7.6 mi., Highway 73, C. K. Horton, 2202 Clay St., Houston, \$39,071; large structures, J. F. Buckner, Cleburne;

Throckmorton County—12.2 mi. gravel base course with triple asphalt surface treatment, Highway 79, McClung Construction Co., Ft. Worth Natl. Bldg., Fort Worth, \$94,685;

Atascosa County—21.9 mi., Highway 97, F. P. McElwrath, Corsicana, \$80,603;

Live Oak County—12.5 mi., Highway 145, F. W. Holdenfels, Rockport, \$69,436;

Wise County—5 mi., Highways 114 and 2, Oran Speer, Alvord, \$50,430;

Wharton County—14.8 mi., Highway 71, Brown & Root, Austin, \$70,520;

McLennan County—8 mi., Highway 7, small structures, Hannah Construction Co. and Fred & Don Hall, Waco, \$42,256; large structures, P. W. Bertram, Abilene, \$34,913; 8 mi., Highway 2, McClung Construction Co., Fort Worth, \$30,007;

Hall County—5.5 mi., Highway 18, C. H. McClellan, 1402 Travis St., Wichita Falls, \$32,050;

Kaufman County—1.6 mi., Highway 15, C. & J. W. Vilbig, Jr., Paris, Dallas, \$25,248;

Jefferson County—4.5 mi., grading, draining and conc., Highway 3, Broussard Warfield Co., Beaumont, \$103,127;

Fisher County—conc. girder bridge over clear fork of Brazos River, Highway 63, Austin Bridge Co., 1813 Clarence St., Dallas, \$18,259;

Brazos County—15.8 mi., Highway 21, small structures, Russ Mitchell, Petroleum Bldg., Houston, \$90,411; large structures, J. S. Moore & Son, Lufkin, \$72,278; 158 mi., Highway 21, grading and small structures, Hannah Construction Co. and Fred & Don Hall, \$42,257; large structures, P. W. Bertram, Abilene, \$34,913 (tentative award);

Wharton County—14.8 mi., El Campo to Colorado County line, Brown & Root, Norwood Bldg., Austin, \$705;

DeWitt County—6.6 mi. caliche and crushed stone, Highway 72, Cooke & Braden, Marshall, \$45,403 (tentative award);

Tarrant County—8.4 mi. grading, draining, Highway 34, Womack, Henning & Rollins, Sherman, \$57,616;

DeWitt County—6.6 mi. double bituminous surface treatment on caliche and crushed stone base course, Highway 72, Cooke & Braden, Marshall, \$45,403;

Van Zandt County—7.3 mi. grading, draining, Highway 15, small structures, J. S. Moore & Sons, Lufkin, \$62,832; large structures, John F. Buckner, Cleburne, \$29,590;

Fayette County—9.7 mi. double bituminous surface treatment on gravel and limestone base course, Highway 72, J. C. Kelley, Trinity, \$97,131;

Tom Green County—9.7 mi. bituminous surface treatment on caliche and water bound macad. base course, Highway 9, J. E. Ward, Linz Bldg., Dallas, \$95,342;

McLennan County—9.4 mi. grading, draining, Highway 2, McClung Construction Co., Fort Worth Natl. Bldg., Fort Worth, \$48,816;

Henderson County—7.9 mi. grading, draining, Highway 40, J. S. Moore & Sons, \$53,145;

Lubbock County—17.7 mi. grading, draining, Highway 7, Womack, Henning & Rollins, \$38,047;

Wheeler County—16.4 mi. grading, draining, Highway 75, A. L. Cook, Ottawa, Kan., \$54,445;

Runnels-Coleman Counties—14.7 mi. grading, draining, Highway 23, small structures, White Bros., San Angelo, \$41,133; large structures, Austin Bridge Co., 1813 Clarence St., Dallas, \$41,671;

Gillespie County—12.8 mi. grading, draining, Highway 20, small structures, E. G. Powell, Jacksonville, \$43,862; large structures, E. W. Hable, Corsicana, \$44,452;

Morris-Bowie Counties—10.3 mi. grading, draining, Highway 11, Martin Bros., Goodhue Bldg., Beaumont, \$83,708;

Brazoria County—8.5 mi. grading, draining, Highway 36, Martin Bros., \$66,023;

Jack County—11.3 mi. grading, draining, Highway 34, G. F. Davis, Springfield, \$106,818;

Live Oak County—4.2 mi. grading, draining, Highway 145, A. B. Hollifield, Dallas, \$63,183. 11-20

Tex., Austin—Travis County, Geo. S. Matthews, Judge, let contracts for 2 roads: 4.77 mi., graveling, Manor-Gregg Road, Raymond Canon, 1412 S. First St., \$15,427; 2.97 mi. graveling, Wells road, same contractor, \$18,937; O. Leonard, County Engr., Brueggerhoff Bldg. 11-13

#### Sewer Construction

**Sewer construction in LAND DEVELOPMENT projects involves the expenditure of large sums of money. Under that classification details of these improvements are reported**

Fla., Miami — City, C. S. Nicholls, City Engr., receives bids Dec. 22 for sanitary sewers, SR273 and SR278.

La., New Orleans—Following contractors estimating on extension of drainage pumping station, Contr. 118-D, bids opened Dec. 30: Lionel F. Favret, Louisiana Bldg.; Chas. Gilbert Construction Co., Canal Bank Bldg.; O. M. Gwin Construction Co., 3505 Fern St.; Blakemore Drilling & Engineering Co., Inc., 3615 O'Hemecourt St.; J. B. McCrary Co., 816 Howard Ave.; John J. Maxwell, 714 Union St.; Geary-Oakes Co., Queen and Crescent Bldg.

La., Slidell—City plans repairing sewer on Front St.

Md., Baltimore—D. C. McAleer Const. Co., Lexington Bldg., has contract for sewers, Storm Water Contr. 161, cost \$40,736. 12-4

Md., Brookeville — Montgomery County Commrs., Rockville, plan sewers along Brookeville Rd.

Md., Cambridge—City, Guy Bryan, Engr., soon receive bids on material for sewers.

Md., Easton—City, reported, having survey made by Kastenheuber & Anderson, Easton, for sewerage disposal plant.

Md., Hagerstown—City, will probably have survey made by J. B. Ferguson & Co., Engr., 39 W. Washington St., Hagerstown, for \$350,000 sewer system; take bids in Spring.

Md., Hagerstown—Emergency bond issue of \$350,000 for completing sewerage system has been approved by Dr. S. B. Riley, of State Dept. of Health; Abel Wolman, Engr. State Dept. of Health, Baltimore, authorized city to proceed with preliminary work of surveying. 11-20

Md., West Catonsville, Sta., Baltimore—Pio Marocco, 231 S. Exeter St., Baltimore, low bidder at \$67,621 for sewers, Cont. No. 22-S, bids opened Dec. 1. 11-20

Miss., Grenada—See Roads, Streets and Paving.

Mo., St. Louis—Bd. of Public Service, W. W. Horner, Ch. Engr., Bridges and Buildings, reported will let contract by Jan. 15 for last large section section of River des Peres drainage work, an open channel 3 miles long along the Southwestern city limits; cost about \$1,000,000. 9-11

Okla., Oklahoma City—City, E. M. Fry, City Mgr., votes Dec. 16 on \$80,000 bonds for sewage disposal, \$1,200,000 for main storm sewers, \$400,000 for main sanitary sewers. 11-27

Okla., Tulsa—City, reported, plans disposal plant for Flat Rock Creek Dist. and plant for Cold Creek Dist.; cost \$150,000; Black & Veatch, Const. Engrs., Mutual Bldg., Kansas City, Mo.

Okla., Tulsa—Roach & Wood, Tulsa, reported, have contract for sanitary sewers in Dist. No. 307.

S. C., Greenville—Carl Gullick, Chrm. San Souci Sewer Committee, reported, interested in installation sewers in Parker District, Sans Souci and Judson.

S. C., Spartanburg—Following contractors estimating on construction of water and sewers, bids opened Dec. 16: J. B. McCrary Co., Citizens & Southern Bank Bldg., Atlanta, Ga.; Fiske-Carter Construction Co., Montgomery St., Spartanburg; Tucker & Laxton, Inc., Indp. Bldg., and The McClelland Co., Latta Arcade, both Charlotte, N. C.; Paul N. Howard, Greensboro Bk. & Tr. Bldg., Greensboro, N. C.; Wilson & Hewitt Co., Market St., Asheville, N. C.; A. H. Gulon & Co., 256 W. Main St., Gastonia, N. C.; Poe Construction Co., Capers Bldg., Greenville; V. B. Higgins & Co., Kenney Bldg., Charlotte, N. C.; Kelly Wilson Co., Asheville, N. C.; Reed & Abbe, 20 E. College St., Asheville, N. C.; A. G. Pinkston, P. O. Box 92, Norfolk, Va. 11-20

Tenn., Knoxville—Lee A. Gridley Construction Co., Wray Ave., has contract at \$58,980 for North Broadway sewer lateral.

Tex., Dallas—City will have plans and specifications completed about Jan. 15 for sewage disposal plant; plant will be an activated sludge type of 40,000,000 gal. per day capacity; estimated cost \$1,500,000; Hawley, Freese and Nichols, Const. Engrs., 417 Capps Bldg., Fort Worth.



Tex., Refugio—City, J. O. West, Mayor, receives bids Dec. 16 for furnishing materials, labor and constructing sewers; work includes sewer disposal plant, settling tank and sprinkling system; Hawley, Freese & Nichols, Const. Engrs., Frost Natl. Bank Bldg., San Antonio.

Va., Ballston—Arlington County Bd. of Education, reported, will award contract to Eugene Casey Construction Co., 1800 E St., N. W., Washington, D. C., for extension Washington-Lee High School sewer along Spout Run.

Va., Lynchburg—See Water Works.

### Telephone Systems

Mo., Kansas City—Sanders Radio Co. incorporated; Roy G. Sanders, 209 W. 38th St.

Tex., Pendleton—Bell County Telephone Co. incorporated; Clem C. Countess, A. B. Berry.

### Textile Mills

Ga., Columbus—Archer Hosiery Mills, Talbotton Road, let contract to Textile Machine Works, Reading, Pa., for 24 full fashioned hosiery machines for installation in 1 story, 103x107 ft. building now under construction; Parks-Cramer Co., 2000 S. Blvd., Charlotte, N. C., has contract for system of combined heating and humidifying; contracts for electrical and sprinkler system will be let later; A. K. Adams Co., 542 Plum St., N. W., Atlanta, Gen. Contrs.; Lockwood Greene Engineers, Inc., Montgomery St., Spartanburg, S. C. 12-4

Ga., Valdosta—Strickland Cotton Mills, Julian Strickland, reported, plans enlarging mill.

N. C., Wilmington—Seaboard Public Service Co., Alexandria, Va., reported, negotiating for Delgado Mills; plan expansion program, including \$340,000 for re-equipping mills, furnish working capital of \$125,000 and provide an organization and contingent fund of \$15,000 and issue 20 yr. debenture bonds to amount of \$200,000; will manufacture broadcloth.

Va., Clifton Forge—Chamber of Commerce, reported, negotiating with outside capitalists for textile mill.

### Water Works

**Details of water works improvements in connection with the many LAND DEVELOPMENT operations will be found under that classification**

Ga., Augusta—Richmond County and City will appropriate \$17,000 jointly to State Health Dept. for development of water supply plant at Circular Court.

Ky., Lawrenceburg—H. K. Bell, 372 Transylvania Park, Lexington, appointed supervising engineer by city for water plant, including pipe line to Kentucky River station, machinery and filter beds; will soon call for bids; cost about \$80,000.

Ky., Louisville—Louisville Water Co., 435 S. Third St., reported, let contract to Platoff & Bush, 122 W. Liberty St., for \$12,000 contract for boiler room alterations at Crescent Hill filter plant; installation of two 520 h.p. boilers by Henry Vogt Machine Co., 1000 W. Ormsby St. 11-13

Ky., Louisville—Louisville Water Co., 435 S. Third St., receiving bids for construction of foundations to be installed at Crescent Hill filtration plant; portion of \$350,000 improvement project under way. 11-13

Md., Brunswick—City, reported, plans \$100,000 water supply system; report submitted by Whitman, Requaardt & Smith, Baltimore Trust Bldg., Baltimore.

Md., Cumberland—City, reported, soon begin work at site of \$500,000 dam to augment water supply; dam will adjoin present one at Lake Gordon. 10-30

Md., Curtis Bay, Sta., Baltimore—City of Baltimore, Bureau of Water Supply, Edw. G. Rost, Engr., Municipal Office Bldg., receives bids Dec. 17 for conc. wall around water tank. 12-4

Md., Frederick—City will probably receive bids Jan. 1 for water supply; dam of conc., 500 ft. long, 50 ft. high; Elmer St. C. Maxwell, Engr. 11-6

Md., Frostburg—City, contemplates \$100,000 water supply system; Fred Crowe, Mayor. 11-27

Mo., Cape Girardeau—City adopted franchise of Missouri Utilities Co., Planters Bldg., St. Louis, subject to vote Dec. 16; if company is granted 20 yr. franchise plans expending \$232,000 for complete water plant at Cape Rock and rebuild street lighting system. 11-16

Okla., Holdenville—J. J. Harrison, Holdenville, has contract for \$225,000 extension to water works; will erect storage reservoir capacity 3,500,000,000 gal., install 2 pumps and motors; C. H. Edge, City Engr. 11-13

Okla., Okarche—City, Harry Hunter, Mayor, soon let contract for \$50,000 water works improvements; install booster pump; lay 7½ mile, 6-in. c. i. pipe; Benham Engineering Co., Engrs., Perrine Bldg., Oklahoma City. 12-4

Okla., Perry—City defeated \$249,000 water works bonds. 10-9

Okla., Oklahoma City—City, E. M. Fry, City Mgr., votes Dec. 16 on \$400,000 bonds for water main extensions, \$400,000 for four 1,000 gal. tanks; \$10,000 for filter plant extensions, \$55,000 for clarifier, \$45,000 for clear well. 11-27

S. C., Cayce—Town, R. C. Allen, Mayor, votes Dec. 16 on \$55,000 bonds for water supply; Ryan Engineering Co., Engrs., Arcade Bldg., Columbia. 10-16

S. C., Spartanburg—See Sewer Construction.

Tex., Houston—City, James H. B. House, Water Commr., plans expending \$15,000 for water main extension Chenevert St., Ewing St., Alameda Rd.

Tex., Port Arthur—Gulf Refining Co., reported, applied to War Dept. for permission to install 84-in. steel water pipeline across Taylor's Bayou nr. Alligator Bayou.

Va., Fairfax—McCrary Engineering Co., Citizens & Southern Bank Bldg., Atlanta, Ga., reported, has contract at \$45,000 for construction of water system; city will soon call for bids for material for system. 12-4

Va., Fairfax—Town, Thos. P. Chapman, Mayor, receives bids Dec. 19 for furnishing material and equipment for water improvements. See Want Section—Bids Asked. 12-4

Va., Falls Church—Town plans issuing bonds for laying water mains; erect 200,000 gal. tank and pumping station; water supply to be obtained from Arlington County; Charles G. Cage, interested; cost about \$115,000. 11-6

Va., Lynchburg—City, R. W. B. Hart, Mgr., may vote on bonds for increasing storage capacity of Pedlar Reservoir, for Dearington and Leaward Sanitary sewers, raising Pedlar dam, etc.

Va., Roanoke—Wachovia Springs Water Co., Inc., capital \$115,000, incorporated; R. W. Shoaf, 370 Woods Ave., S. W.

### Woodworking Plants

Ark., Eagle Mills—Scale Bros. Handle Co., E. N. and E. W. Scales, establish hickory handle plant.

Md., Baltimore—American Cooperage Co., 141 N. Kresson St., contemplates erecting manufacturing plant, Fayette and Kresson Sts.; 1 story; brick.

## FIRE DAMAGE

Ala., Centerville—Frank Meigs' residence.

Ala., Frisco City—J. J. McWilliams Mercantile Co.'s store and warehouse; Lamar Drug Store; loss \$50,000.

Ala., Montgomery—Car repair shed and warehouse of Atlanta & West Point R. R.

Co., and Western Ry. of Ala., O. T. Nelson, Ch. Engr., Atlanta, Ga.; loss \$20,000.

Ark., Floyd—Consolidated school building; loss \$10,000; Floyd E. Bradberry, Sec., Bd. of School Directors, Searcy.

Ark., Ink—Cottman Cotton Gin, W. M. Cottman, Propr.

Ark., Magnolia—Russell Waller's residence, Union Chapel community, Calhoun Rd., 4 miles from Magnolia.

Ark., McDermott—Heading and stave mill owned by W. B. Bynum; loss \$175,000.

Ark., Pangburn—Pangburn Gin, owned by Dan Shepherd.

Ark., Swifton—C. A. Snow's building containing store of Mr. Snow, theatre, barber shop and Swifton postoffice; loss \$30,000.

Fla., Sebring—A. J. Lutz's saw mill.

Ky., Mercer—Power house of Pacific Coal Co.; loss \$25,000.

La., Waynesboro—Cole Lumber Co.'s planer mill; loss \$20,000.

Md., Baltimore—Dormitory at Industrial Home for Colored Girls, Melvale, Mrs. Sarah C. Medinger, Supt., 204 E. 34th St.

Md., Halethorpe—Geo. R. Newcomb's residence, English Consul.

Md., Catonsville—Garage on Bloomsburg Ave. nr. Frederick Rd., owned by Jones & Frindt.

Miss., Laurel—Guy Printing Co.'s plant, Central Ave.

Miss., West Point—Dixie Cleaning Co.'s plant; loss \$10,000.

N. C., High Point—Quality Shoe Store, 135 S. Main St., J. L. Chernault, Mgr.; loss \$15,000.

N. C., Pine Hall—Junior High School, W. C. Voorhees, Principal; loss \$15,000.

Okla., Frederick—Kelly Hotel owned by Bob Jones, Ardmore; loss \$75,000.

S. C., Adamsburg—F. M. Adams & Sons, two stores; loss \$20,000.

S. C., Columbia—Warehouse of Columbia Compress Co. on Dover St.; loss \$150,000.

Tex., Dallas—Oak Cliff Presbyterian Church, Rev. Thos. F. Gallaher, Pastor, 300 W. 10th St.; loss \$25,000.

Tex., Gainesville—State Training School for Girls, Mrs. Agnes Stephens, Supt.; loss \$10,000.

Tenn., Humboldt—Plant of Humboldt Wagon Works; loss \$15,000.

Tenn., Memphis—Ford Hardwood Lumber Co.'s mill near old Horn Lake Rd. and Malory Ave.; loss \$125,000.

Tex., Bryan—W. L. Power's confectionery on Main St.; loss \$10,000.

Tex., Pampa—Barnard Bldg. on Cyler St., damaged; loss \$80,000.

Tex., Rosenberg—Dr. M. E. Sanders' residence; loss \$7000 to \$10,000.

Va., Charlottesville—Preventorium at Mission Home, 25 miles from Charlottesville, supported by Episcopal Church, conducted by archdeaconry of Blue Ridge with Rev. W. Roy Mason, Charlottesville, in charge; loss \$10,000.

Va., Lynchburg—Store of Lynchburg Iron & Metal Co., 1200 Commerce St.; loss \$14,000.

Va., Petersburg—Battersea Cotton Mills; loss \$15,000.

Va., Portsmouth—W. C. Weiss' residence, Old Deep Creek Blvd.

Va., Vienna—Robert T. Ballard's store; loss \$25,000.

W. Va., Fort Seybert—Buckhorn Flour Mill, J. F. Teter, Owner.

W. Va., Kearneysville—H. E. Miller's store; loss \$10,000.

## BUILDING NEWS

### BUILDINGS PROPOSED

#### Association and Fraternal

La., New Orleans—Bunn Electrical Engineering Co., Inc., 742 St. Charles St., has elect. work contract for \$300,000 central Y. M. C. A.; sheet metal work, Holzer Sheet Metal Works, Inc., 321 Burgundy St.; comp. roofing, Olympia Roofing Co., 321 Burgundy St.; millwork, National Sash & Door Co., 600 N. Dupre St.; painting, Frank J. Matthew Co., Inc., 918 Union St.; plumbing and heating, Gore & Daubert, Inc., 835 Baronne St.; tile roofing, F. E. Cranor, Maritime Bldg.; tile work, Eugene J. Zimmermann,

1721 Carondelet St.; Favrot & Livaudais, Ltd., Archts., Hibernia Bldg.; Gervais F. Favrot, Contr., Balter Bldg. 12-4

Md., Baltimore—Baltimore Forest No. 45, Tall Cedars of Lebanon, Archie C. New, Chmn., Bldg. Comm., 2 E. Lexington St., let excavation contract for \$100,000 auditorium, rear of 1209-15 N. Charles St., to L. LeRoy Spelshouse, 1621 Frederick Ave.; open bids for gen. constr. about Jan. 2; fireproof, 1 story, basement, mezzanine and balcony, brick, stone and rein. conc., wood, terrazzo, tile and conc. floors, conc. foundation, gypsum and built-up roof, 79.6x115 ft.; Bernard

Evander, Archt., 20 E. Lexington St.; Henry Adams, Mech. Engr., Calvert Bldg.; Herman F. Doeelman, Struct. Engr., Balto. Trust Bldg. Address proposals on furnishings, equipment, etc., \$30,000, to Robt. E. Lohman, City Passenger Agt., B. & O. R. R. See Want Section—Building Material and Equipment.

10-23

Tex., Houston—Pasadena Post, American Legion, W. B. Bailey, Jr., Chmn., Bldg. Comm., plans bldg.; frame, 2 stories, 28x60-ft. auditorium; owner builds.

Tex., Legion—American Legion, Hal Brennan, State Commr., Laredo, erect \$10,000 health center and children's playground near U. S. Veterans Hospital; work start Dec. 6.

Tex., Temple—Young Men's Christian Assn. may erect building.

### Bank and Office

Ga., Atlanta—Lorenz Neuhoof, Peachtree Battle Ave., N. W., plans 5 additional stories to 3-story office bldg., 161 Spring St., N. W.; rein. conc., brick 100x100 ft. terrazzo floors, tar and gravel roof; E. C. Seiz, Archt., 161 Spring St., N. W.; completing plans.

Tex., Fort Worth—Fort Worth National Bank, Main and Seventh Sts., has permit for elevator work; \$140,000.

Tex., Fort Worth—W. T. Waggoner has permit for elevator work, W. T. Waggoner Bldg.; \$130,000.

### Churches

D. C., Washington—National Shrine of Immaculate Conception, Rt. Rev. Thos. J. Shanahan, care Catholic University, member, Bd. of Trustees, erect pink granite, conc. and brick bldg.; 1 story, 207x206 ft.; Maginnis & Walsh, Archts., Statler Bldg., Boston, Mass.; Fredk. V. Murphy, Asso. Archt., 1413 H St., Washington; bids in.

Md., Aberdeen—Lutheran Church erect 1-story brick bldg.; Carl F. Strohmeier, Archt., Calvert Bldg., Baltimore; work probably start in Spring.

Mo., Cape Girardeau—Red Star Baptist Church, Rev. W. E. Hicks, Pastor, having plans drawn for addition to auditorium; brick.

Mo., St. Louis—Peters Memorial Presbyterian Church erect brick bldg., Minnesota and Sidney Sts.; stone trim, 1 story and basement, L shape; LaBeaume & Klein, Archts., Amer. Tr. Bldg.; bids in.

Tex., Hereford—Presbyterian Church started work on bldg.; also erect 6-room brick manse.

Tex., San Antonio—Highland Park Presbyterian Church, care Dr. B. D. D. Greer, Pastor, plans brick and rein. conc. Sunday school, Hammond and S. Givers Sts.; 2 stories, 50x96 ft., 2 assembly rooms, gymnasium, locker rooms, library; R. H. Hugman, Archt., 530 Fourth St.; preliminary plans.

Tex., San Antonio—First Cumberland Presbyterian Church having working drawings made for \$40,000 bldg., Aganier and W. Elsmere Sts.; rein. conc. frame, masonry, 2 stories and balcony, about 40x110 ft., cork, rubber or ceramic floors, slate or asbestos shingle roof, floating conc. footing foundation; Robt. Specht, Archt., 1002 Western Natl. Bldg.

11-27

Va., Petersburg—St. Joseph's Parish, Rev. Edw. P. Kilgallen, Pastor, receives bids Dec. 18 to remodel dwelling for parish house; brick, wood frame floors and roof; 2 stories, 40x65 ft., tin roof; T. J. Collins & Son, Archts., Staunton.

W. Va., Charleston—Mrs. Lucy E. Mullins, 1412 First Ave., interested in establishment of Colored Methodist Church, West Charleston, would erect building.

### City and County

Ark., Russellville—Pope County, J. Q. Hill, County Judge, may vote in Jan. on \$150,000 courthouse bonds.

Ark., Wynne—Cross County, C. M. Stacy, County Judge, voted bonds to remodel and erect additional story to courthouse.

10-2

Ga., Barnesville—Lamar County Bd. of Commrs. has low bid at \$62,910 from Barnesville Planing Mills for court house; E. C. Wachendorf, Archt.; W. C. Spiker, Engr., both Standard Bldg., Atlanta.

11-27

Ga., Calhoun—City, F. L. Hicks, Mayor, considers erecting city hall.

Ga., Milledgeville—Baldwin County Bd. of Commrs., O. F. Moran, Chmn., considers erecting court house; Wm. F. Oliphant, Archt., Grand Bldg., Macon.

Md., Baltimore—Additional estimators on \$2,400,000 Enoch Pratt Free Library, bids Dec. 17 by Board of Awards, City Hall; McCloskey & Co., 1626 W. Thompson St.; Irwin

& Leighton, 1505 Race St.; Wark & Co., 1608 Walnut St., all Philadelphia, Pa.; P. C. Street Engineering Co., 404 St. Paul Place; Fraine Bros., 19 W. Franklin St., both Baltimore; John Gill & Sons, Bulkley Bldg., Cleveland, O.; Clyde N. & Nelson Friz, Archts., Lexington Bldg., Baltimore; Edw. L. Tilton and Alfred Morton Githens, Const. Archts., both 41 E. 45th St., New York; C. L. Reeder, Mech. Engr., 915 N. Charles St.; H. F. Doeelman, Struct. Engr., 510 N. Charles St., both Baltimore.

12-4

Okla., Chickasha—Grady County votes Dec. 22 on \$300,000 courthouse and jail bonds; E. H. Eads & Co., Archts.

11-6

Okla., Oklahoma City—City votes Dec. 16 on \$8,800,000 bonds, including \$1,000,000 for convention hall; \$600,000 for city hall; \$420,000 for Fair Park improvements, including \$80,000 4-H club, \$35,000 basement to grand stand, \$100,000 agricultural bldg., \$70,000 baby's-women's bldg., and \$85,000 livestock bldg.; \$30,000 for downtown comfort stations; \$150,000 for city detention hospital; \$500,000 for fire stations and equipment; and \$175,000 for municipal garage and fire station.

9-18

Tex., Abilene—Taylor County, Tom K. Epleen, County Judge, voted \$100,000 jail bonds; structure brick and rein. conc., David S. Castle Co., Alexander Bldg., Geo. Campbell, Radford Bldg., architects.

12-4

Tex., Columbus—City, O. A. Zumwalt, Mayor, voted \$25,000 city hall and fire station bonds; L. M. Wirtz, 1305 Blodgett St., Houston.

Tex., New Braunfels—City having plans for fire station revised; Spanish type, struct. clay tile, stucco, conc. frame, 1 story, 37x42 ft., tile roof; Jeremiah Schmidt, Archt., New Braunfels; J. W. Beretta Engineers, Inc., Engrs., 1203 Natl. Bank of Commerce Bldg., San Antonio.

10-23

Tex., San Antonio—City, C. M. Chambers, Mayor, receives bids Dec. 15 for club and recreational bldg., Palm Heights; Wilder & Smith, Archts., Texas Theatre Bldg.; J. W. Beretta Engineers, Inc., Engrs., 1203 Natl. Bk. of Commerce Bldg.

11-20

Va., Richmond—Committee on Utilities of Common Council at Dec. 26 meeting will consider resolution calling for \$500,000 bond issue to erect city office bldg. opp. city hall.

### Dwellings

Ala., Birmingham—Wofford Bond & Mortgage Co., First Natl. Bk. Bldg., erect \$15,000 brick veneer residence, Redmont Park; 2 stories, 29x40 ft., asbestos roof, steam heat; Chas. H. McCauley, Archt., Jackson Bldg.; F. E. Dunlap, Contr., 2842 S. 18th St.

D. C., Washington—Wm. G. Hill, 3803 Huntington St., N. W., erect residence, River Rd., Montgomery County, Md.; brick, 2½ stories, hardwood floors, tile baths, incinerator, vapor heat; Porter & Lockie, Archts., 1800 E St.; soon have plans ready.

Fla., Bartow—Mrs. R. K. Smith, 475 N. Oak Ave., considers erecting \$20,000 residence; brick veneer, 2 stories and basement, oak and pine floors, tile roof; architect not selected.

Fla., Coral Gables, Miami—W. L. Beers, Congress Bldg., Miami, erect \$12,000 rein. conc., conc. block and stucco residence, Avenue Asturia near Cordovia St.; 2 stories, 2-car garage and servants' quarters, tile and wood floors, tile roof; Henry J. Moloney, Archt., Professional Bldg., Miami.

Fla., Lake Placid—C. M. Ryan, care Severn Lumber Co., plans 5 dwellings; frame, oak floors, comp. roofs; \$15,000; W. F. Cornell, Archt., 727 Chiles St., Lakeland; preliminary plans.

Fla., Miami—N. D. Huyler, 1542 N. Bayshore Drive, erect residence, N. E. 17th St. near Bayshore Drive.

Fla., Miami—Frank Wyatt Woods, Archt., Ingraham Bldg., completed plans for dwelling and garage, 94th St. and Collins Ave., North Miami Beach.

Ga., Atlanta—Chas. T. Nunnally, 904 Peachtree St., N. E., erect \$75,000 residence, Paces Ferry Rd.; brick, stone trim, 2 stories and basement, hardwood and tile floors, conc. foundation, slate or tile roof, steam heat; Hentz, Adler & Shutz, Archts., Candler Bldg.; drawing plans.

La., Alexandria—Allen Dezauche receives bids Dec. 17 (extended date) for \$10,000 residence; brick veneer, 1½ stories; bidders noted Nov. 20; Herman J. Duncan, Archt., 120 Murray St.

11-20

Md., Baltimore—Garnet Hulings, vice-pres., Continental Steamship Co., Keyser Bldg., purchased Stone Hall Farm, Worthington Valley; remodel residence.

Md., Baltimore—Mrs. Robt. D. Hopkins and F. Barton Harvey, Bellona and Brightside Aves., Green Spring Valley, remodel residence; \$40,000; Taylor & Fisher, Archts., Balto. Trust Bldg.; bids Dec. 12.

Miss., Meridian—E. T. Edgerton, Miazza-Woods Bldg., has permit for \$10,000 brick veneer residence, 40th St. and 23rd Ave.

Mo., St. Louis—Mrs. Ella Barnett, care Johnson & Maack, Archts., Chemical Bldg., erect brick residence, Pasadena Hills; 2 stories and basement, 43x40 ft.; bids in.

Mo., St. Louis—J. S. Penny, care Marcel Boulicault, Archt., 1101 Ambassador Bldg., erect brick residence, Lake Forest; 2 stories and basement, 40x84 ft., 3 baths, slate roof, marble work, steel sash, vapor heat; about ready for bids.

N. C., Warrenton—Mrs. Addele Jones erect \$15,000 residence; J. A. Salter, Archt., Raleigh.

N. C., Wilmington—John Bright erect residence; contract let.

Okla., Shawnee—Paul Loy erect \$11,000 residence; brick veneer, 1 story and part basement, 45x64 ft.; L. P. Nygard, Archt.

Okla., Tulsa—W. M. Hawk, 528 N. Santa Fe St., erect \$35,000 residence; brick and stone, 2 stories and basement; Leland I. Shumway, Archt., Alexander Bldg.

Tex., Fort Worth—Byrne & Luther, Westover Addition, have permits for 2 dwellings, Lloyd Drive; brick veneer; total \$70,000.

Tex., Harlingen—Hugh Ramsey, care Ramsey Bros., Glenn Farris, care Farris Lumber Co., and others, erect \$12,000 demonstration home, Pinwood Heights.

Tex., Lockhart—R. F. Lyendecker erect frame Colonial residence; 1 story, 6 rooms, asbestos shingle roof; Jeremiah Schmidt, Archt., New Braunfels.

Tex., Mercedes—Mercedes Lumber Co., S. E. Kieschnick, Mgr., will break ground in Jan. for 10 dwellings.

### Government and State

Ark., North Little Rock—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., receives bids Dec. 17 for survey of site for post office.

12-5-29

D. C., Washington—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., received bids Dec. 9 for post office site surveys at Hobart, Okla.; Greenville, Ala.; Lebanon, Mo., and Huntington, Tenn.; bids Dec. 11 for site surveys at Monroe, Ga.; Manassas, Va.; Mountain Grove, Mo., and Madison, Ga.

D. C., Washington—Prospective estimators, Army Medical School addition, \$840,000, bids Jan. 6 by Constructing Quartermaster, Army Medical Center: Arthur L. Smith, 2539 Pennsylvania Ave., N. W.; Geo. E. Wyne, 2539 Pennsylvania Ave., N. W.; R. E. Anderson, 809 Maryland Ave., N. E.; Standard Art Marble & Tile Co., Inc., 334 C St., N. W.; Loudoun-Rust Co., Dist. Natl. Bk. Bldg.; R. E. Milor, Investment Bldg.; Lally-Rohlander Co., Inc., 1756 M St., N. W.; Crane Co., 1225 I St., N. W.; Casey Engineering Co., Architects Bldg.; C. A. Hofferberth Construction Co., 818 District Natl. Bk. Bldg.; Alberene Stone Co., 410 Bond Bldg.; Standard Engineering Co., 2121 I St.; D. C. Butcher, Rust Bldg.; Souder Electric Co., 839 Florida Ave., N. E.; Boyle-Robertson, Inc., Evans Bldg.; Harry Alexander, Inc., Architects Bldg.; James Stewart & Co., 2514 Massachusetts Ave., N. W.; W. G. Cornell Co., 1003 K St., N. W.; Otis Elevator Co., 810 18th St., N. W.; all Washington; J. A. Jones Construction Co., Commercial Bank Bldg., Charlotte, N. C.; North-Eastern Construction Co., 6 W. Madison St.; Consolidated Supply Co., Inc., 1102 N. Charles St.; Consolidated Engineering Co., Inc., 20 E. Franklin St., all Baltimore, Md.; Geo. H. Evans, Inc., 1416 Vine St.; General Bronze Corp., 1128 Fidelity-Philadelphia Trust Bldg.; Wark Co., 1608 Walnut St.; McCloskey & Co., 1620 Thompson St.; Ralph S. Herzog, 10 S. 18th St., all Philadelphia, Pa.; John W. Cowper Co., Inc., State Planters Bk. Bldg.; Lee Paschall, Amer. Bk. & Tr. Bldg., both Richmond, Va.; Edw. S. Moore & Son, 610 N. Washington St., Kokomo, Ind.; Fleisher Engineering & Construction Co., Wrigley Bldg.; Wahl Construction Co., 3310 Belmont Ave.; Great Lakes Construction Co., 333 N. Michigan Ave., all Chicago, Ill.; W. P. Rose Co., Wayne Natl. Bk. Bldg., Goldsboro, N. C.; A. S. Bacon & Sons, Savannah, Ga.; Ingalls Stone Co., Bedford, Ind.; H. R. Blagg Co., 1229 Third St., Dayton, O.



Fla., Jacksonville—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., having sketches drawn by H. J. Klutho, Archt., 2030 Main St., Jacksonville, for \$600,000 parcel post bldg., W. Bay and Cleveland Sts.; rein. conc., brick and stone facing, 2 stories, 100x265 ft.; steel windows, probably of sliding type; conveyors, elevators, chutes, vaults, counters, shelving, etc.; drawings to be started upon approval of sketches. 11-27

Fla., Miami—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., having plans drawn for \$1,641,000 post office and custom house; Phineas Paist & Harold D. Stewart, Archts.; L. Murry Dixon, Asso. Archt., all Ingraham Bldg., Miami, and Ponce de Leon Entrance Bldg., Coral Gables, Fla.; Maurice H. Connell, Mech. Engr., McAllister Hotel Bldg., Miami; Harvey Baxter, Struct. Engr., 518 Harding St., P. O. Box 65, Coconut Grove, Fla.; structure faced with Quarry Key stone, hollow tile back, Italian Renaissance type, tile roof, 3 stories and basement, 254x215 ft.; probably rein. conc. foundations, columns, beams, girders, etc.; 44x70-ft. Federal court room with acoustical stone above wainscot; marble floor and 15- to 18-ft. marble wainscot in lobby; interlocking wood block, tile, wood and terrazzo floors; forced ventilation system, air purification system; preliminary plans probably soon completed; foundation plans to be ready in about 6 weeks after approval of preliminary plans. 11-27

Ky., Prestonsburg—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., receives bids Dec. 15 for survey of site for post office. 11-20

Md., Fort George G. Meade—Constructing Quartermaster has low bid at \$42,000 from National Contracting Corp., Laurel, Md., for nurses' quarters. 11-20

N. C., High Point—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., selected site, S. Main and Green Sts., for \$400,000 post office; work may start in Spring. 7-31

Okla., Oklahoma City—Prospective estimators on \$1,100,000 extension and remodeling of post office and court house, bids Dec. 23 by Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C.; Algernon Blair, First Natl. Bank Bldg., Montgomery, Ala.; Henry B. Ryan Co., 500 N. Dearborn St.; N. P. Severin Co., 222 W. Adams St.; Wahl Construction Co., 3310 Belmont Ave.; Fleisher Engineering & Construction Co., Wrigley Bldg.; Strandberg Bros. Co., Transportation Bldg.; W. E. O'Neill Construction Co., 308 W. Washington St.; L. Bolkin Co., 1850 W. Austin St., all Chicago, Ill.; Yeager & Son, Danville, Ill.; Jas. T. Taylor, Aviation Bldg., Fort Worth, Tex.; Burch Bros. Construction Co., Rwy. Exch. Bldg., St. Louis, Mo.; R. E. McKee, 1918 Texas St., El Paso, Tex.; Holmboe Construction Co., Lincoln Blvd. and 19th St.; Bellows Construction Co., Okla. Saving & Loan Bldg., both Oklahoma City, Okla.; Chas. Weitz' Sons, Des Moines, Iowa, and Box 1431, Tulsa, Okla.; Skinker & Garrett, 1719 I St., N. W., Washington; Edw. S. Moore & Son, 610 N. Washington St., Kokomo, Ind.; Ralph Solitt & Sons Construction Co., 518 E. Sample St., South Bend, Ind.; James I. Barnes, Barnes Bldg., Logansport, Ind.; Phelps-Drake Co., Inc., Metropolitan Life Bldg.; Ring Construction Co., 808 Wesley Temple Bldg., both Minneapolis, Minn.; Jas. DeVault, Massillon Rd., Canton, O. 12-4

S. C., Rock Hill—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., reported, has plans nearing completion for \$275,000 post office; rein. conc., brick and tile, stone trim, struct. steel, 3 stories, marble and tile work. 11-6

Tex., El Paso—Department of Justice, Washington, D. C., Sanford Bates, Supt. of Prisons, probably have plans completed about Jan. 1 for \$400,000 prison; brick, tile, steel and rein. conc.; Trost & Trost, Archts., Two Republics Bldg., El Paso. 7-17

Tex., Randolph Field—Constructing Quartermaster, Capt. A. W. Parker, soon call for bids for 17 company officers' quarters and powder magazines; former Spanish type, masonry, 2 stories, \$12,500 each; John M. Marriott, Archt., Frost Natl. Bk. Bldg., San Antonio; latter struct. clay tile, 1 story, wood ramparts. 12-4

Tex., Randolph Field—Constructing Quartermaster, Capt. A. W. Parker, receives revised bids Dec. 15 for about 250,000 ft. underground elect. cable; former bids rejected. 11-6

Tex., Sweetwater—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., reported, let contract bet. Feb. 15 and March 1 for \$130,000 post office. 7-31

Va., Hampton Roads, Norfolk—Navy Dept., Bureau of Yards and Docks, Washington, D. C., receives bids until Jan. 7 for barracks, Hampton Roads Naval Training Station. 11-27

Va., Portsmouth—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., has low bid at \$80,940 from Jones Bros. & Co., Planters Bank Bldg., Wilson, N. C., for post office extension; low bid at \$4790 from Salem Foundry & Machine Works, Inc., Salem, Va., for elevator. 11-27

W. Va., Clarksburg—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., has low bid at \$278,500 from John Largura & Co., Gary, Ind., for post office and court house; low bid at \$42,500 from Westbrook Elevator Manufacturing Co., Spring St., Danville, Va., for elevator. 11-27

W. Va., New Martinsville—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., receives bids Dec. 15 for survey of site for post office.

### Hospitals, Sanitariums, Etc.

Ala., Fort McClellan, Anniston—Constructing Quartermaster, Lieut. O. E. Davis, receives bids until Jan. 5 for hospital and utilities; information upon application.

Ark., Little Rock—Pulaski County Hospital Assn., Dr. W. F. Smith, Pres., secured charter; authorized to issue bonds; will borrow funds to erect \$600,000 county hospital; County to retire bonds in 15 yearly payments; Wittenberg & Delony, Archts., Home Ins. Bldg. 11-29

D. C., Washington—Following contractors estimating on nurses' home, Gallinger Hospital, bids Dec. 19 by District Commrs., Dist. Bldg.: C. A. Hofferberth, 1406 G St.; W. E. Mooney, 2539 Pennsylvania Ave.; English Construction Co., 1311 H St.; Loudoun-Rust Co., 1406 G St.; Geo. E. Wyne, 2539 Pennsylvania Ave., all Washington; North-Eastern Construction Co., 6 W. Madison St., Baltimore, Md. 12-4

Ky., Lexington—State, Flem D. Sampson, Gov., Frankfort, has recommendation from Rollie E. Keown, State Inspector and Examiner for erection of 4 additional wards, Eastern State Hospital for Insane.

La., Shreveport—Dr. E. L. Sanderson, Charity Hospital, interested in erection of \$19,000 dispensary.

Md., Perry Point—U. S. Veterans' Bureau, Arlington Bldg., Washington, D. C., opens bids Dec. 16 for tank and tower, U. S. Veterans' Hospital; following are prospective estimators: Virginia Machinery & Well Co., 1319 E. Main St., Richmond, Va.; Chicago Bridge & Iron Works, 1015 Chestnut St., Philadelphia, Pa.; Ransom & Anderson, 126 Liberty St., New York.

Miss., Jackson—Mississippi Building Comsn., R. L. Brown, Sec., receives bids Jan. 2 for 12 bldgs. at new \$5,000,000 State Hospital for Insane, Rankin County; 7 cottages for chronic cases, \$320,000; 2 bldgs. for epileptics, \$150,000; 2 for disturbed patients, \$120,000, and 1 patients' main dining room and kitchen, \$100,000; fireproof, brick, conc. foundations, shingle tile and comp. roofs, terrazzo, tile and marble floors, steel windows, cast stone trim; N. W. Overstreet, Archt., Standard Life Bldg.; Grahn Construction Co., Red Rock Bldg., Atlanta, Ga., estimating. 11-27

Mo., Spanish Lake, St. Louis—Sisters of Notre Dame, Mother M. Jolendis, 320 W. Ripa St., probably have plans ready for bids first week in Jan. for brick and stone infirmary; 3 stories and basement; O'Meara & Hills, Archts., Arcade Bldg., St. Louis.

Okla., Lawton—Dr. J. M. Thompson, Walters, completing financing for \$100,000 hospital; probably soon call for bids; brick and rein. conc., 3 stories; E. H. Eads & Co., Archts., Chickasha. 10-30

Tenn., Memphis—United States Veterans Bureau, Arlington Bldg., Washington, D. C., start work in Feb. on 100-bed addition, U. S. Veterans Hospital. 1-2

Tenn., Memphis—Additional prospective estimators on nurses' home, U. S. Veterans' Hospital, bids Dec. 23 by U. S. Veterans' Bureau, Arlington Bldg., Washington, D. C.: Cole Manufacturing Co. (millwork), 789 S. Fourth St.; B. W. Cocke & Sons, Bldrs. Exch. Bldg., both Memphis, Tenn.; Logan Co. (material), 1115 Franklin St., Louisville, Ky.; Floor Crafters, Inc., 133 Brevard Court, Charlotte, N. C.; W. E. O'Neill Construction Co., 308 W. Washington St.; Sumner-Sollitt Co., 307 N. Michigan Ave., both Chicago, Ill. 12-4

Tex., El Paso—City of El Paso and El Paso County vote Dec. 20 on \$750,000 hospital bonds; fireproof, about 150 beds; Trost & Trost, Archts., Two Republics Bldg. 10-2

### Hotels and Apartments

D. C., Washington—Carl Carlson, 1332 Eye St., N. W., remodel Denver Apartments, 1419 Chapin St., N. W.

Ga., Rome—Miss Daisy Allen has permit for apartment house; \$10,000.

La., New Orleans—A. Aronson, 4236 S. Miro St., soon ready for bids for 2-story apartment, 3128 Willow St.

Tenn., Chattanooga—C. C. Moore, Hamilton Natl. Bank Bldg., has permit for repairs to Myrtle Terrace Apartments recently damaged by fire; \$20,000.

Tex., El Paso—Hotel Hussman, 306 N. Mesa Ave., reported, erect \$250,000 hotel garage.

Tex., Houston—Mrs. Rosalie De George erect additional story and remodel 4-story brick building for hotel; 65 rooms.

### Miscellaneous

Ark., Hot Springs National Park—A. J. Scull, Sec., Fountain Lake Corp., advises that company does not contemplate constructing trolley line connecting city with Fountain Lake Resort; recently noted as expending \$100,000 for improvements to resort. 11-20

La., Shreveport—George Despot, 521 Market St., having plans prepared by Seymour Van Os, City Bank Bldg., for remodeling Columbia Restaurant; \$10,000.

Md., Betterton—Royal Swan Corp., Fuller Bldg., Philadelphia, Pa., ready for bids in about 10 days for 6-story hotel and 3-story amusement building; 250x42 ft., steel frame, brick, cinder block and hollow tile; stone or conc. foundation, gypsum or steel partitions, built-up roof; H. L. Reinhold, Jr., Archt., 10 S. 18th St., Philadelphia. 12-4

N. C., Charlotte—Charlotte Country Club, David Clark, Chmn., ready for bids early next year for \$200,000 clubhouse; Aymar Embury, II, Archt., 150 E. 61st St., New York. 10-23

Tex., Houston—Ed Eisemann, Jr., 708 Franklin St., remodel End-of-Main Dance Hall, Main St. near Bellaire Blvd.

### Schools

Ala., Auburn—School Bd., J. R. Ruthland, soon let contract for \$115,000, 2-story, brick and stone school; 205.9 ft. frontage; plans by A. F. Dittmar, State Dept. of Education, Montgomery.

Ark., Arkadelphia—School Bd. let contract early in Jan. for \$100,000, 2-story, brick and stone Sr. High School; Petter & McAninch, Archts., Pyramid Life Bldg., Little Rock. 10-16

D. C., Washington—District Commrs., 509 District Bldg., let contract at \$108,470 to North-Eastern Construction Co., 6 W. Madison St., Baltimore, for Horace Mann School; 2 stories and basement, brick; comp. tile floors, slate roof; A. L. Harris, Municipal Archt., Dist. Bldg. 11-27

D. C., Washington—District Commrs., Roland M. Brennan, Dist. Bldg., have low bid at \$103,390 from Charles S. Barnett, Inc., 47th St. and Springfield Ave., Philadelphia, Pa., for 2-story and basement, brick, 8-room school, Northampton St. and Broad Branch Rd., N. W.; comp. tile floors, slate roof; A. L. Harris, Municipal Archt. 11-27

Fla., Ocala—American Missionary Assn., 287 Fourth Ave., New York, ready for bids about Jan. 15 for \$40,000, 1-story, 180x110 ft., brick, tile and stucco high school at Fessenden Academy near Ocala; tile roof wood floors; George Awsumb, Archt., Dermon Bldg., Memphis, Tenn. 12-4

Ky., Ashland—Bd. of Education selected Henry N. Foster, Grand Theatre Bldg., to prepare plans for \$200,000 junior high school on Blackburn Ave. near 29th St.; accommodate 800 students.

La., Baton Rouge—Louisiana State University soon call for bids for addition at university stadium to contain 16 toilet rooms and plumbing and fixtures; \$10,000; Wogan & Bernard, Archts., Old Raymond Bldg.

La., Baton Rouge—L. J. Ricard, Commr. of Finance, City Hall, receives bids Dec. 12 for repairs to Convention School, recently damaged by fire; Lewis A. Grosz, Archt., New Raymond Bldg.

La., Golden Meadow—LaFourche Parish School Bd., W. S. Lafargue, Supt., Thibodaux, receives bids Jan. 7 for \$50,000, 1-story, brick veneer school; separate bids on heating and plumbing; Favrot & Livaudais, Archts., Hibernia Bank Bldg., New Orleans. 12-4

La., New Orleans—Orleans Parish School Bd., City Hall Annex, has low bid from O. M. Gwin Construction Co., 3503 Fern St., for B. M. Palmer School at \$206,200 on yellow pine interior trim, and \$212,200 on Hon-

# LEADITE

Trade Mark Registered U.S. Pat. Office

## "Unusual Water Pressures"

JOHN C. PRITCHARD, DIRECTOR  
LEONARD A. DAY, WATER COMMISSIONER

DISTRIBUTION SECTION  
THOS. J. SKINNER, ENGINEER IN CHARGE  
W. A. FOLEY, ASST. ENGINEER

CITY OF ST. LOUIS  
DEPARTMENT OF PUBLIC UTILITIES  
WATER DIVISION  
312 CITY HALL  
July 27, 1928.

Mr. Geo. McKay, Jr.  
c/o Leadite Co.  
Land Title Bldg.  
Philadelphia, Pa.

Dear Mr. McKay:-

Sometime in February I took a piece of 6" Class "C" pipe about 4 ft. long and capped the spigot end and ran this joint solid with leadite, that is, there was no yarn used. The bell end was plugged and run solid. It was my intention at this time to see how much pressure the cap and plug would withstand. I was especially interested in seeing if a cap put on in this way would have to be blocked carefully to prevent blowing off.

The piece of 6" pipe had been in one of our buildings and had never had any water in the pipe until a few days before July 18th. The Mueller Co. had a pressure gauge in making their tests that was calibrated up to 1000 lbs. and I availed myself of this opportunity to make the tests on the leadite joints. I tapped the pipe and installed two (2) corporation cocks, one to let in water and the other to release the air. Then the pressure was applied. We ran the pressure up to 1200# and both joints held perfectly; we slowly increased the pressure and when it had gotten between 1200 and 1300 lbs. the joint at the spigot end of the pipe developed a slight sweat. We continued boosting the pressure until it was approximately 1400 lbs. at which time the end of the cap blew off; neither of the leadite joints were affected, and no leak developed in either joint except for the slight sweat mentioned above.

The opportunity never presented itself for me to make this test until July 18th at which time the Mueller Co. was making a demonstration at our Pipe Yard, on their copper service pipe.

This test was made in the presence of a number of local Contractors and Engineers among them were- Fred Luth, Mr. Fuller and Mr. Merkle of St. Louis and Mr. W.C. Heinrichs of the Mueller Co. of Decatur, Ills. Mr. Heinrichs took some pictures of the piece of pipe which I will send you.

Hoping this may be of interest to you and with kindest regards, I am,

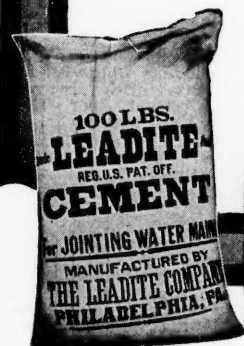
*The above is pounds per square inch on 39 1/2 lbs. cap. The cap blew off.*  
Yours very truly,  
*Thos. J. Skinner*  
Engineer in Charge  
Distribution Section.

The pioneer self-caulking material for c. i. pipe.  
Tested and used for over 30 years.  
Saves at least 75%.

THE LEADITE COMPANY

Land Title Building

Philadelphia, Pa.



# No Caulking'





duras mahogany interior trim; 3 stories, 273 x136 ft., brick and conc., stone trim, built-up roof, wood floors, 29 classrooms; E. A. Christy, Supvg. Archt., for School Bd. 11-13

Md., Baltimore—Friends School, W. S. Pike, Headmaster, Park Ave. and Laurens St., plans to start work within two months on \$125,000 building for intermediate department, second unit of group school, Charles St. Ave. near Wynnehurst Ave.; third section of group to be built for high school department; completed group to cost about \$500,000; Mottu & White, Archts., 527 N. Charles St.

Md., Baltimore—Bd. of Public Improvement Comsn., Bureau of Construction, H. J. Leimbach, Supvg. Engr., City Hall, ready for bids in spring of 1931 for \$128,000, 2-story and basement, 62x130 ft., brick school No. 113, Federal St. and Greenmount Ave.; Benj. Frank, Archt., 517 N. Charles St.; Henry Massart, Struc. Engr., 328 N. Charles St.; James Posey, Mech. Engr., Baltimore Trust Bldg. 10-23

Md., Charlotte Hall—Charlotte Hall School, Col. F. B. Crowson, Prin., ready for bids in few days for 2-story, 60x74 ft., brick building and swimming pool; slate roof, steam heat, tile and terrazzo work; Howard W. Cutler, Archt., 1800 E St., Washington, D. C.

Md., Hamilton, Baltimore—Following contractors estimating on \$500,000, 2-story and basement, brick Northeast Jr. High School, bids Dec. 24 by Public Improvement Comsn., H. J. Leimbach, Supvg. Engr., City Hall; J. L. Robinson Construction Co., 522 Park Ave.; North-Eastern Construction Co., 6 W. Madison St.; Price Construction Co., Maryland Trust Bldg.; Charles L. Stockhausen Co., Inc., 33 S. Gay St.; Wm. W. Emmart, Archt., Union Trust Bldg., all Baltimore. 12-4

Md., Laurel—District Commrs., Hon. P. L. Dougherty, Engr., Dept., Room 427, Dist. Bldg., Washington, D. C., having plans prepared by A. L. Harris, Municipal Archt., Dist. Bldg., Washington, for \$130,000, 2-story, brick domestic service building including kitchen, laundry, etc.

Md., Woodside—Montgomery County School Commrs., Dr. Lewis, Supt., Rockville, have low bid at \$11,855 from Herbert Johnson, Colesville, Md., for 2-story, brick school addition; slate roof; Howard W. Cutler, Archt., 1800 E St., Washington, D. C.

Miss., Orange Grove—Orange Grove Consolidated School Dist. voted \$15,000 bonds for school and teachers home; address Jackson County Bd. of Supervisors, Pascagoula.

Miss., Starkville—Mississippi Agricultural & Mechanical College, L. G. North, Sec.-Bus. Mgr., receives bids Dec. 20 for student activity building.

S. C., Columbia—University of South Carolina, Dr. D. M. Douglas, Pres., receives bids Dec. 16 (extended date) for \$300,000, 3-story and basement, rein. conc., struc. steel, brick and tile, stone trim educational building; comp. roof, tile, terrazzo and linoleum floors; J. Carroll Johnson, Archt., Sylvan Bldg., Columbia; following contractors estimating: A. K. Adams Co., 542 Plum St., N. W.; Southern Ferro Co., Atlanta Trust Bldg., both Atlanta, Ga.; Morris-McKoy Construction Co.; C. M. Lide, Hook Bldg.; Ruth-erford-Innes Co.; Fuller Holding Co., all Columbia; Gallivan Construction Co., Gallivan Bldg.; Fiske-Carter Construction Co., Masonic Temple Bldg.; Potter & Shackelford, Allen Bldg., all Greenville; Batson-Cook Co., West Point, Ga.; Townsend Lumber Co., N. Towers St., Anderson; Southern Builders Co., Florence; Dawson Engineering Co., 10 Gillon St.; Charleston Constructors, Inc., 58 Broad St., both Charleston; Angle-Blackford Co., American Natl. Bank Bldg., Greensboro, N. C.; U. A. Underwood Co., Murchison Bldg., Wilmington, N. C.; J. J. McDewitt Co., Builders Bldg., Charlotte, N. C.; Northeastern Construction Co., Nissen Bldg., Winston-Salem, N. C.; W. P. Rose Co., Wayne Natl. Bank Bldg., Goldsboro, N. C. 12-4

Tex., Dalhart—Dalhart Consolidated Ind. School Dist., H. A. Finch, Supt., purchased site for additional school building and athletic field.

Tex., Dimmitt—Dimmitt School Dist. No. 1, C. A. Cryer, Supt. of Schools, has plans by Rittenberry & Carder, Fisk M. & P. Bldg., Amarillo, for \$20,000, 2-story, 50x80 ft., brick gymnasium for high school; maple floors, tar and gravel roof. 11-27

Tex., Galveston—Bd. of Regents, University of Texas, J. W. Calhoun, comptroller, Austin ready for bids after Jan. for \$250,000, 4-story, brick, rein. conc. and stone laboratory addition at Medical College; Herbert M. Greene, LaRoche & Dahl, Archts., Construction Bldg., Dallas. 7-24

Tex., George West—George West Ind. School Dist. voted \$35,000 bonds for high school; Hamon & Co., Archts., Medical Professional Bldg., Corpus Christi. 10-30

Tex., Goodland—Goodland School Dist. Trustees erect \$25,000 school; 4 classrooms, auditorium and gymnasium; S. B. Haynes, Archt., Lubbock.

Tex., Lubbock—Texas Technological College, W. T. Gaston, Bus. Mgr., erect addition to power plant, cattle pens, etc.; \$25,000.

Tex., Mercedes—Mercedes Ind. School Dist., R. H. Kern, Pres., Bd. of Trustees, let contract about Jan. 15 for \$100,000 high school; 17 classrooms, three science rooms and two home economics rooms; tile, brick and rein. conc.; erect 4 additional rooms and remodel present high school for grade school; having plans drawn for \$50,000 combination cafeteria and gymnasium building; work to be financed by \$250,000 bonds voted several months ago; R. Newell Waters, Archt., Weslaco; W. E. Simpson Co., Engrs., Milam Bldg., San Antonio. 11-6

Tex., San Marcos—Southwest Texas State Teachers College, Dr. C. E. Evans, Pres., erect \$75,000 brick and rein. conc. gymnasium to replace structure previously noted destroyed by fire. 10-30

Va., Woodberry Forest—Trustees of Woodberry Forest have completed plans for enlargement of school; building program includes gymnasium, two dormitories, dining hall and infirmary, and administration building.

## Stores

Ala., Andalusia—Mrs. J. Morgan Prestwood erect \$10,000, 1-story, 37x100 ft., brick store.

Ala., Huntsville—Noojin Hardware & Supply Co. erect \$60,000, 3-story, brick store; comp. roof.

D. C., Washington—American Security & Trust Co. has low bid from Teunis F. Collier, 1109 20th St., for remodeling store, 1322 G St.; Paul's Jewelry Store, Lessee: A. B. Mullett & Co., Archts., Union Trust Bldg.

D. C., Washington—L. Jacobs, 413 11th St., remodel and erect addition to building, 411 11th St., N. W.; brick, tin roof, hot water heat; Julius Wenig, Archt., Edmonds Bldg.; bids in.

Ga., Atlanta—H. E. Crain, care B. W. Grant Co., Grant Bldg., soon start work on 1-story, 60x70 ft., frame store, 979-83 Virginia Ave., N. E.; tar and gravel roof.

Ga., Atlanta—Collier Estate, Virgil Collier, Piedmont Hotel, having preliminary plans prepared by Pringle & Smith, Norris Bldg., for improvements to old Hotel Aragon site, Peachtree and Ellis Sts., N. E., for store.

Ga., Atlanta—W. S. Loftis, Loftis Heating & Plumbing Co., 45 Mangum St., S. W., rebuild store recently damaged by fire at loss

\$100,000; 3 stories and basement, brick, tar and gravel roof; Joseph S. Shaw, Engr., Georgia Savings Bank Bldg.

La., Opelousas—Wm. T. Nolan, Archt., Canal Bank Bldg., New Orleans, receives bids Dec. 18 for improvements to brick building for Fa-Kouri Tailoring Co.; plans include new store front, show cases, plate glass, bronze trim work, new marquise, lighting fixtures, etc.

Md., Laurel—Laurel Pharmacy has low bid from Ralph M. Murray, 39th and Old York Road, Baltimore, for alterations and addition to 2-story, brick store; \$10,000; Wm. F. Stone, Archt., Munsey Bldg., Baltimore. 11-6

Md., Towson—Crown Five and Ten Cent Store Co., C. C. Marley, Propr., 3205 Greenmount Ave., plans to let contract about Jan. 15 for store; David Harrison, Archt., 3735 Reisterstown Road, both Baltimore.

Mo., Joplin—Palace Clothing Co., Joe Goldstein, 421 Main St., soon start work on \$20,000 improvements to front and interior of building, 627 Main St.

Mo., Kansas City—Bertram Electric Co., H. J. Bertram, Pres., erect 50x40 ft., brick addition to building, 1716 Grand Ave.

Tex., San Antonio—Gaudalupé Dairy Stores, T. N. Weaver, owner and manager, opened store, 638 Main St.; nine others to be installed with next six months; represent investment of approx. \$50,000 for equipment alone.

Va., Norfolk—D. L. Margolius, 742 W. Princess Anne Road, erect \$20,000, 1-story, 120x90 ft., brick, stone trim commercial building, 22nd St. and Monticello Ave.; Bernard B. Spiegel, Archt., 254 Granby St.; bids in.

## Warehouses

D. C., Washington—E. G. Schafer & Co., 4100 Georgia Ave., N. W., erect 4-story and basement, 102x61 ft., brick, conc. block and hollow tile warehouse and store, 4th St. and Rhode Island Ave., N. E.; comp. roof, steel stairway, freight elevator, vacuum steam heat, skylights; Col. P. M. Anderson, Engr., Investment Bldg.; bids in Dec. 12.

Va., Norfolk—H. B. Rogers, Inc., Virginia Natl. Bank Bldg., successors to Southgate Forwarding & Storage Co., approved plans for tobacco storage warehouses and other facilities, involving ultimate expenditure of approx. \$500,000; three units of warehouse project are under construction on former Southgate properties adjoining Norfolk Navy Yard on Southern Branch of Elizabeth River, and from 15 to 20 similar structures are contemplated; latter to be located on Norfolk side of Elizabeth River, although several will be in Portsmouth and on Berkley-South Norfolk side.

# BUILDING CONTRACTS AWARDED

## Association and Fraternal

Ga., Quitman—Ancient Free and Accepted Masons let contract to J. M. Culpepper & Son, Pelham, to remodel 2-story temple; brick, comp. roof.

## Bank and Office

Mo., Kansas City—Kansas City Power & Light Co. let contract to Swenson Construction Co., Shubert Bldg., for \$2,500,000 office bldg.; struct. steel frame contract previously noted; 30 stories, 131x100 ft., 501 ft. high; 41-ft. penthouse surmounted by 87-ft. ornate tower above 30th floor; Hoyt, Price & Barnes, Archts., 2500 Telephone Bldg.; H. F. Freshman, Company archt.; O. R. Bettis, Company engr., both 1330 Grand Ave. 9-13

Mo., Kansas City—Twenty-one West Tenth Street Building Co., Jos. A. Bruening, Board of Trade Bldg., and Wm. Pitt, Dwight Bldg., started work on 12-story addition to old 3-story New England Bank Bldg., Tenth St. and Baltimore Ave.; steel frame; S. Patti Construction Co., Contr., 705 Finance Bldg. 12-4

Okla., Chickasha—Citizens-Farmers National Bank clearing site for \$115,000 bldg.; stone, 2 stories and basement, 50x110 ft., common brick, marble floors, metal lath, steel sash, hollow tile, misc. and struct. steel, steam heat; St. Louis Bank Building & Equipment Co., Archt.-Contr., 900 Sidney St., St. Louis, Mo.; cut stone to Texas Quarries, Scarbrough Bldg., Austin, Tex. 10-16

Tex., Hale Center—First National Bank completed foundation for building.

## Churches

Mo., Pine Lawn—Nelson Memorial Presbyterian Church, Chas. E. Hampton, Contr., 6206 Glenn Ave., advises erection of Sunday school postponed until Spring; may revise plans; Wm. J. Beattie, Archt., 904 Olive St., St. Louis. 10-16

Tex., San Benito—First Methodist Church let contract at \$61,718 to Meriwether & Sauers, Harlingen and San Benito, for face brick veneer, struct. clay tile, steel and rein. conc. bldg.; copper roof; Robt. L. Vogler, Archt.-Engr., Edinburg. 10-2

## City and County

Ala., Gadsden—City let contract at \$12,200 to Ed S. Cochran for jail; Paul Hofferbert, Archt. 10-23

La., New Orleans—City let contract to Lionel F. Favret, Louisiana Bldg., for stable, Pitt and Millaudon Sts.; brick, stucco trim, 1 story, 90x47 ft., cement floor, Kinnear doors; M. B. DePass, Municipal Archt. 11-27

Tex., Crowell—Foard County Bd. of Comms. let contract at \$24,500 to Southern Prison Co., 4500 S. Presa St., San Antonio, for jail; brick, 2 stories; work start about Jan. 1.

Tex., San Antonio—City will let contract at \$10,091 to Mitchell Construction Co., Bldgs. Exch. Bldg., for recreational bldg., Lockwood-Dignowity Park; and at \$9495 to Ernest F. Kusener, 735 Rigby St., for recreational bldg., Mittman Park; both stone, 1 story; former 80x40 ft.; Wilson & Werner, Archts.; W. E. Simpson & Co., Engrs., both Milam Bldg. 11-27



## TIME—THAT TOUGH OLD TESTER

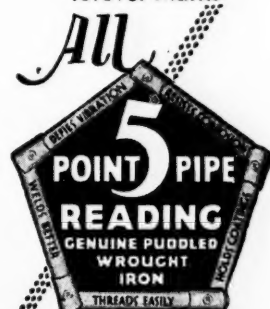
Here is Time, that Tough Old Tester of everything in this world. To his aid, Time calls all the destructive forces of the universe. Years come and go, storms and sunshine, heat and cold make their accustomed rounds, while Time, the Tough Old Tester, broods over the world, trying, testing, destroying.

*Use only Reading 5-Point Nipples with Reading 5-Point Pipe—you'll know them by the indented spiral band*

Yet Time, the Tough Old Tester, does have his troubles. Against one material devised by man, Time and his serving-men falter. The material is genuine Puddled Wrought Iron—the metal of which Reading 5-Point Pipe is made.

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For Your Protection,  
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*Science and Invention Have Never Found a Satisfactory Substitute for Genuine Puddled Wrought Iron*



## Dwellings

D. C., Washington—M. S. McConihe, 10 Jackson Place, completed excavation for \$75,000 residence, 2807 Woodland Drive; hollow tile and stucco, 3 stories and attic, 65x30 ft., conc. foundation, slate roof; Geo. N. Ray, Archt., 1223 Connecticut Ave.; F. M. McConihe & Co., Inc., Contrs., 10 Jackson Place. See Want Section—Building Material and Equipment. 12-4

D. C., Washington—L. J. Cantrell, 3500 Thirteenth St., N. W., started work on \$10,000 brick residence, 6101 Utah Ave., N. W.; 25.6x30.6 ft., oak floors, conc. foundation, tile roof; Griffin Bros., Archts.-Contrs., 1343 H St., N. W.; no prices needed. 12-4

D. C., Washington—Sandoz, Inc., 2 Dupont Circle, N. W., rebuild burned residence, 1409 P St.; brick, 2 stories, tile bath, oak floors, hot water heat; Schuyler & Loundsbery, Contrs., 2 Dupont Circle.

D. C., Washington—C. W. Williams, North Woodside, Md., erect 5 dwellings, Kansas Ave., near Hamilton St.; brick, 2 stories, tin roof, hot water heat; \$50,000; Geo. T. Santmyers, Archt., 927 Fifteenth St., N. W.; owner builds; drawing plans.

D. C., Washington—A. M. Sheppard, Bond Bldg., erect 2 brick and hollow tile dwellings, 5400 block 31st St., N. W.; 2 stories, slate roofs, tile baths, hot water heat; \$20,000; John Albert Hunter, Archt., 5471 Thirty-first St.; owner builds; drawing plans.

D. C., Washington—A. M. Hyler, 1800 E St., N. W., let contract to R. L. Jennings, 726 Fourteenth St., Washington, for residence, Kenwood, Montgomery County, Md.; local stone, 2½ stories, 25x70 ft.; E. W. Coppleman, Archt., Electric Bldg., Richmond, Va. 11-27

D. C., Washington—H. F. Clemmer, care A. H. Sonnemann, Archt., 2400 Sixteenth St., N. W., erect brick residence, Woodlawn Ave. and Shadow Rd., Kenwood, Montgomery County, Md.; 2½ stories, stucco, slate roof, hot water heat; E. A. Passagno, Contr., 2301 Cathedral Ave.

Fla., Miami Beach—Mrs. D. W. Clark, care C. R. Clark, Contr., 925 Lincoln Rd., started work on \$12,500 residence and garage, 2105 Meridian Ave.; V. H. Nellenbogen, Archt., 925 Lincoln Rd.

Ga., Atlanta—E. C. Brand, 278 Milton Ave., S. E., erect brick veneer residence, 1301 Hill St., S. E.; 1 story, 2 baths, comp. roof; owner builds.

Ga., Atlanta—Clay E. Joseph, care Atlanta Constitution, Alabama St., let contract to W. F. Kinney, 1655 Flat Shoals Ave., S. E., for \$10,000 residence; brick veneer, 1 story and basement, 8 rooms, 2 baths, wood joist, hardwood and tile floors, hot air heat; Augustus E. Constantine, Archt., Candler Bldg.

Ga., Blakely—Mrs. J. S. Sherman let contract to W. B. Hiers, 1497 Westwood Ave., S. W., Atlanta, for hollow tile, struct. steel, brick and limestone residence; 2 stories and basement, 100x47 ft., hardwood and tile floors, slate roof, steam heat; T. Firth Lockwood, Archt., Murrah Bldg., Columbus. 12-4

La., New Orleans—J. H. Holmes, Contr., 2552 Acacia St., erect dwelling, Bruxelles St.

La., New Orleans—John L. Saleeby, 940 Belleville St., Algiers, New Orleans, erect doctor's office and residence, 710-12 Belleville; asbestos roof, sheet metal and tile work; constr. by sub-contract.

La., New Orleans—Geo. J. Stoll, 2510 Eads St., erect double residence, Eastern Ave. near Gentilly Blvd.; about ready for sub-bids.

Md., Baltimore—John S. Dunnoek, 2519 dence and garage, Drury Lane, Ten Hills; Garrison Blvd., excavating for \$15,000 resi-brick veneer, stucco and half timber, 2 stories, 70x25.6 ft., oak floors, slate roof; Sears, Roebuck & Co., Archts.-Contrs., Roosevelt Blvd., Philadelphia, Pa. 12-4

Md., Baltimore—Frank W. Krebs, 2111 Bel Air Road, erect 8 frame dwellings and garages, 3008-32 Roselawn Ave.; 2 stories, 26x34 ft.; owner builds.

Md., Baltimore—Milton R. Lerch, Bldr., 5206 Harford Rd., erect 2 frame and stucco dwellings, 3104-06 Northway Drive, after plans by Fredk. E. Beall, Archt., 306 St. Paul Place; 1½ stories, 24.8x33.6 ft. and 20x20 ft., hot water heat; \$10,000. 11-27

La., New Orleans—J. E. Cockerham, Contr., 941 Maurice Ave., erect dwelling, Music St. near Johnson St.

Md., Baltimore—P. Yeatman erect 9 brick dwellings, 3000-16 Spaulding Ave.; 2 stories, 19.6x31 ft. and 15x46 ft.; garages 10x17 ft.; \$30,000; Geo. Wessel, Archt., 301 W. 40th St.;

R. B. Construction Co., Contr., 112 W. Lexington St.

Md., Baltimore—Frank T. Mace, Bldr., 11 E. Lexington St., erect frame dwelling and garage, St. Dunstan Rd.; 2½ stories, 30x36 ft., T shape; Cyril H. Hebrank, Archt., 3 E. Lexington St.; owner builds.

Md., Baltimore—American Building Co., 5449 Jonquil Ave., erect 5 stone and block dwellings, 5448-56 Jonquil Ave.; 2 stories, 20x45 ft., 19.10x38 ft. and 20.6x35 ft., hot water heat; \$12,500; Adolf C. Dreyer, Archt., 5446 Narcissus Ave.; owner builds.

Mo., Cape Girardeau—Nater Bros. erect stone, frame and shingle dwelling, Highway No. 61; Sam R. Smith, Contr.; Bruce Colonial and yellow pine floors, wood shingle roof, 1 story and basement, U shape; Reither & Lindsay, Archts., 424 S. & H. Bldg.; also erect \$30,000 dwelling, Highway No. 61; stone, 2 stories and basement, 48x60 ft.; hardwood and comp. floors, tile roof, marble and tile work, terra cotta, hollow tile, metal lath; plans being drawn. See Want Section—Building Material and Equipment; Machinery and Supplies.

Mo., St. Louis—J. H. Reynard, care Frank McClinton, Contr., 1340 Ferguson Ave., erect brick residence, 7440 Wellington Way; 2 stories and basement, 44x43 ft., 2 baths, stone foundation, hardwood floors, tile bath, slate roof, vapor heat; Geo. R. Bartling, Inc., Archt., Paul Brown Bldg.

Mo., St. Louis—Chas. S. Mueri, 3134 S. Grand Blvd., erect 2 brick dwellings, Shaftsbury Heights; 1 story and basement, 30x38 ft. and 26x40 ft., comp. shingle roofs, tile baths, stone foundations; F. G. Avis, Archt., 1021 Big Bend Blvd.; work by sub-contract; plans nearing completion.

Mo., St. Louis—R. L. Reed, 6265 Goener Ave., erect \$10,000 residence, 5418 Gresham Ave.; brick, 1 story and basement, 24x43 ft., hardwood floors, tile bath, asphalt shingle roof, hot air heat, conc. foundation; A. F. Stauder, Archt., 3608 Gravois Ave.; work by sub-contract.

Mo. St. Louis—Albert Wenzlick, 1010 Chestnut St., excavating for 2 brick dwellings, 6312-31 Mardel Ave.; 1 story and basement, 26x47 ft., tile bath, hardwood floors, asphalt shingle roof, hot water heat; total \$10,000; F. G. Avis, Archt., 1021 Big Bend Blvd.; M. Meyer, Contr., 6316 Pernod Ave.

Mo., St. Louis—J. L. Sullivan let contract to J. A. Kuhn, 4042 Flora St., for \$25,000 residence, Davis Drive, St. Louis County; brick, rein. conc., metal lath, 2 stories, 40x60 ft., conc. floors and foundation, walnut floors, slate roof; M. Boulicault, Archt.; L. M. Dieckmeyer, Engr., both Ambassador Bldg.; excavating.

Okla., Oklahoma City—G. A. Nichols, Inc., 115 N. Harvey St., started work on \$20,000 dwelling; brick veneer, 2 stories and basement, 40x65 ft.; owner builds.

Tex., San Antonio—Stanley Newding, care Richard Vander Straten, Archt., Travis Bldg., let contract at \$13,064 to J. C. Winder, 168 Sacramento St., for brick veneer residence; 1 story. 12-4

Va., Virginia Beach—B. W. Johnson, 1500 Hampton Blvd., let contract to H. M. Capps for \$12,000 residence; Philip B. Moser, Archt., Law Bldg., Norfolk. 11-6

## Government and State

D. C., Washington—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., let contract at \$5725 to H. Herfurth, Jr., Inc., District Natl. Bank Bldg., for clearing site for \$6,900,000 Archives bldg.; John Russell Pope, Archt., 542 Fifth Ave., New York. 11-27

D. C., Washington—Architect of the Capitol, David Lynn, let contract at \$5,270,000 to Consolidated Engineering Co., Inc., 20 E. Franklin St., Baltimore, Md., for office bldg. for House of Representatives; site contains 90,000 sq. ft.; fireproof, white marble, granite base, Indiana limestone in courts, Alabama limestone in interior, 10 stories, including sub-basement; office furnishings about \$1,000,000; plans by Allied Architects of Washington, Inc., 16 Jackson Place, N. W.; G. A. Wescher, Mech. Engr., 16 Jackson Place, N. W., all Washington; 975 tons rein. steel reported, let to Truscon Steel Co., Youngstown, O.; 4900 tons struct. steel, reported, let to American Bridge Co., Frick Bldg., Pittsburgh, Pa. 11-6

Tex., Randolph Field—Constructing Quartermaster, Capt. A. W. Parker, let contract at \$56,939 to Robt. E. McKee, 1916 Texas St., for sewage disposal plant and \$56,715 to Mr. McKee for quartermaster garage; latter struct. clay tile, struct. steel, brick and rein. conc., 1 story, 500x100 ft., metal lath and plaster, steel sash, doors and frames, steel lockers. 12-4

Va., Quantico—Following sub-contracts let on 4 three-story barrack bldgs., Marine Barracks, for which Ralph Sollitt & Sons Construction Co., 228 N. LaSalle St., Chicago, Ill., has contract at \$1,243,074: Waterproofing, Architectural Water Co., Philadelphia, Pa.; water drainage, Gray Concrete Co., Quantico; excavating, Loomis Construction Co., 1014 Wisconsin Ave., N. W.; granite, Walter S. Phelps, Seventh and Franklin Sts., N. E.; plumbing, heating and ventilating, Rathbone & Sons, all Washington, D. C.; marble, terrazzo and tile, R. L. Ritch & Sons, 308 N. McDowell St., Charlotte, N. C.; conc. form work, Presswood Concrete Form Co. (div. of Masonite Corp.), 111 W. Washington St.; east stone, Architectural Stone Co., 1119 E. 77th St., both Chicago; hollow metal and kalamein doors, Triangle Fireproof Door & Sash Co., 788 Humboldt St., Brooklyn, N. Y.; roofing, Wallace & Gale, 115 S. Gay St.; sheet metal, Philip H. Lenderking, 1000 S. Linwood Ave., both Baltimore, Md.; millwork, Pease Co., Mitchell Ave. and B. & O. R. R., Cincinnati, O.; rein. steel, Truscon Steel Co., Youngstown, O.; lime and cement, Thos. J. Fannon & Sons, Alexandria, Va.; glass and glazing, Binswanger & Co., Inc., 525 E. Byrd St., Richmond, Va.; cut stone, Ebinger Co., Cedar Rapids, Iowa. 12-4

W. Va., Morgantown—Monongalia Legion, Inc., care Col. C. C. Robinson, erect \$50,000 armory; constr. by separate contracts under Supt.; conc., steel and tile block, 1 and part 2 stories, 85x110 ft., wood floors, conc. foundation, built-up roof; private plans. See Want Section—Building Material and Equipment. 10-16

## Hospitals, Sanitariums, Etc.

Md., Towson, Baltimore—Additional sub-contracts let on \$170,000 nurses' home, Sheppard & Enoch Pratt Hospital: Excavation, Wm. Meyer, Phila. Ave. and Eaton St.; brick, Frank Miller, 3001 Greenmount Ave.; millwork, Heise & Bruns Mill & Lumber Co., 600 S. Caroline St.; painting, Basil B. Wells, 1617 Frederick Ave.; slate roofing, Edw. G. Fick & Co., 200 S. Harford Road; sheet metal, W. A. Fingles, 2256 Reisterstown Rd.; marble tile, J. B. Dunn & Sons, Inc., 853 N. Howard St.; bar joist, Truscon Steel Co., Standard Oil Bldg.; struct. steel, Dietrich Bros., 220 E. Pleasant St.; misc. iron, Baltimore Steel Co., 1400 Eastern Ave.; Wyatt & Nolting, Archts., Keyser Bldg.; M. A. Long Co., Contr., 10 W. Chase St., all Baltimore. 11-13

Miss., Jackson—State Hospital for Insane, Dr. C. D. Mitchell, Supt., started work repairing ward lately noted damaged by fire at \$10,000 loss.

Mo., St. Louis—St. Louis University let contract to McCormack-Combs Constr. Co., Columbia Bldg., for foundation of \$1,250,000 Firmin Desloge Memorial Hospital; structure 14 stories, fireproof, brick, stone and rein. conc.; Arthur J. Widmer & Associates, Inc., and Study & Farrar, associated architects. 12-4

Okla., Elk City—Community Hospital Assn. let excavation contract to M. Peterson for 3-story, brick, stone and rein. conc. hospital; probably call for bids about Jan. 1. 11-20

Va., Lynchburg—Memorial Hospital Bd. of Trustees let contract to C. L. Lewis, Krise Bldg., for \$50,000 second unit; about 100 beds. 12-4

## Hotels and Apartments

D. C., Washington—Rosslyn Steel & Cement Co., Rosslyn, Va., has contract for 2500 tons steel for \$5,000,000 apartment hotel, Connecticut Ave. and Klinge Road, under construction for Kennedy-Warren, Inc., Edgar S. Kennedy of Kennedy Bros. Co., 2400 Sixteenth St., N. W., and Monroe Warren of M. & R. B. Warren, Connecticut and Sedgwick Aves.; Joseph Younger, Archt., 3031 Sedgwick Ave. 10-30

Ga., Marietta—Morgan McNeel let contract to O. C. Harbour for alterations and additions to Kennesaw Inn; 3 stories and basement, brick, comp. roof, convert second and third floors into 30-unit apartment, new stairway, gas heat, 5-store units on ground floor; S. D. Trowbridge, Archt., Forsyth Bldg., Atlanta.

Mo., Jefferson City—Edward J. Hurley, 227½ S. Ohio St., Sedalia, erecting Prince Edward Apartments; fireproof and sound-proof.

Mo., St. Louis—Joe Berkowitz, 7433 Cromwell St., soon start work on 2-story and basement, 70x31 ft., brick apartment, Hanley Road, north of Wallina Terrace; stone foundation, slate or tile roof, hardwood floors, steam heat; Ben Shapiro, Archt., Synd. Trust Bldg.; owner builds by sub-contract.

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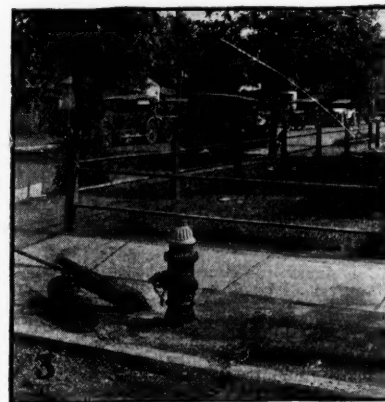
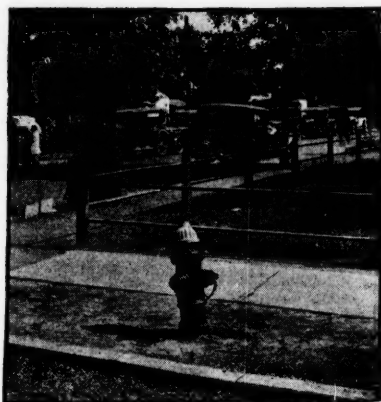
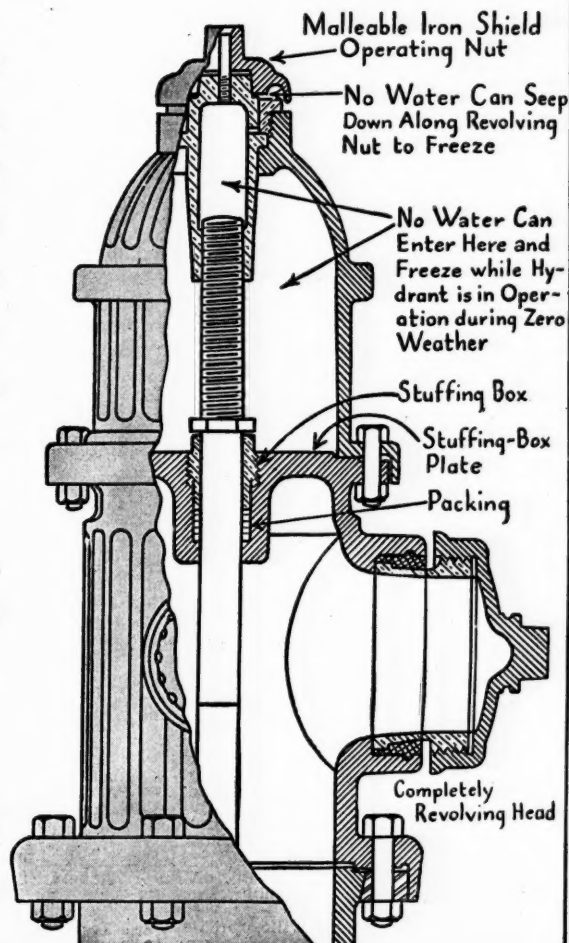
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Mo., St. Louis—H. Moellenhoff erect \$35,000, 2-story, 92x76 ft., brick tenement, 3815-19 Wilmington St.; Moellenhoff Building & Realty Co., Archt.-Bldr., both 5407 S. Grand Ave.

Okla., Tulsa—William Everett, 1331 S. Rockford Ave., erect apartment; Rundquist Construction Co., Contr., 1215 S. Detroit St.

Okla., Tulsa—E. M. Brown erecting \$75,000 18-apartment, 15th St. and Birmingham Ave.; Rundquist Construction Co., Contr., 1215 S. Detroit St.

### Miscellaneous

Fla., Winter Haven—Florida Orange Festival, Inc., J. B. Guthrie, Gen. Mgr., let contract to Home Builders' Supply, Inc., for 4 exhibition buildings. 12-4

Ga., Brunswick—Windsor Construction Co. has contract for \$10,000, 1-story, frame and stucco tourist club at intersection of Coastal and St. Simons highways; Jas. D. Gould, Chmn., Bldg., Comm.; Francis L. Abreu, Archt., Dunwoody Bldg. 11-27

Md., Baltimore—St. Dominic's Parish, Rev. J. B. Manley, Pastor, Harford and Gibbons Aves., let contract to Clarke Construction Co., American Bldg., for \$65,000, 3-story, 40x80 ft., stone convent; tile roof; Stanislaus Russell, Archt., 11 E. Lexington St. 12-4

Md., Mount Washington, Baltimore—Following sub-contracts awarded on \$500,000, 4-story, brick, fireproof building, Rogers and Greenspring Aves., for Methodist Episcopal Home, Geo. N. Bullen, Chmn., 619 W. Franklin St., Baltimore, for which Thos. Hicks & Son, 106 W. Madison St., Baltimore, have general contract; Heating, Enterprise Heating Co., 619 W. Franklin St.; plumbing, Lloyd E. Mitchell, 915 E. Monument St.; electric work, Edw. Bauernschmidt, 1522 N. Gay St.; elevators, General Elevator Co., Bush and Ridgely Sts.; O. Eugene Adams, Archt., 329 N. Charles St.; Herman F. Doeleman, Struct. Engr., Baltimore Trust Bldg.; Henry Adams, Inc., Mech. Engr., Calvert Bldg., all Baltimore. 10-23

Mo., Cape Girardeau—Charles H. Butler and Kelso Oil Co. start work on tourist camp buildings on Highway 61, west of city limits, to be known as "Camp Cape."

Tex., Gonzales—Michelson Brothers let contract to R. E. Nagel, Gonzales, for remodeling store building for Michelson Cafe No. 33; P. G. Silber & Co., Archts., Bedell Bldg., San Antonio. 11-20

### Schools

D. C., Washington—Hudson-Dougherty Co., Seventh and T Sts., N. E., has contract for 161 tons rein. conc. for Dormitory Group at Howard University for which Majiatlo Construction Co., 805 Fifth Ave., N. W., has general contract. 11-27

Fla., Chiefland—Levy County Bd. of Public Instruction, H. B. Priest, Supt., Bronson, let contract at \$42,000 to All States Construction Co., Inc., Jacksonville, for 1-story, 314x65 ft., 17-classroom brick school; asbestos shingle roof; Alvin R. Moore, Archt., 300½ S. Monroe St., Tallahassee; Guy L. Winthrop, Engr., Tallahassee.

Ky., Danville—Kentucky School for Deaf let contract to T. J. Murphy & Brother Co., Bowling Green, for \$85,900 recreation building.

Ky., Paducah—West Kentucky Industrial College let contract to Charles R. Iseman, Masonic Bldg., for \$75,000, 2-story and basement, 210x164 ft., brick, steel and frame administration building; asbestos shingle roof, wood floors; G. Tandy Smith, Jr., Archt., Guthrie Bldg. 11-13

Mo., Cape Girardeau—State Teachers College erecting 3-story annex to Academic Hall. 9-4

Mo., Gainesville—Bd. of Education, J. C. Harlin, Pres., let contract at \$10,184 to Donald Boyd for high school; Fred Fisher, Archt., West Plains.

Mo., St. Louis—Washington University has permit to remodel 10-story office and warehouse building, 1505 Washington St.; \$40,000; Black Masonry & Contracting Co., Bldr., Loundman Bldg.; Trueblood & Graf and H. Rumsdard, Archts., Chemical Bldg.

N. C., Apex—Wake County Bd. of Education, John Lockhart, Supt., Raleigh, let contract at \$12,700 to Strickland Bros., Zebulon, for brick school; comp. roof; J. M. Kennedy, Archt., Gilmer Bldg., Raleigh.

N. C., Raleigh—Bd. of School Trustees, Courthouse, let contract at \$20,436 to J. N. Bryan & Son, Rogers Bldg., for Swift Creek School; 8 classrooms and auditorium, brick; W. H. Deitrick, Archt., Professional Bldg. 12-4

Tex., Brenham—Brenham Ind. School Dist., F. H. Bossee, Pres., Bd. of Trustees, let contract to Alex Griffin for 1-story, brick and tile shower and locker building; Lamar Q. Cato, Archt., Merchants and Manufacturers Bldg., Houston.

### Stores

D. C., Washington—Penn Realty Corp., 133 Pennsylvania Ave., let contract to A. D. Brown, 4400 17th St., N. W., for 2-story, brick store and apartment, 1430 Morse St., N. E.; Julius Wenig, Archt., Edmonds Bldg. 11-27

D. C., Washington—T. F. Collier, 1109 20th St., remodel 3-story, brick building, 800 block Connecticut Ave., N. W.; 2 stores and 5 apartments; new baths, mastic floors, fireproof stairways, terrazzo, electric wiring, metal ceiling; N. R. Grimm, Archt., 816 18th St., N. W.

Ga., Atlanta—C. L. Curlee, 11 Emily Place, S. W., erect 2-story store and duplex, 890 Bankhead Ave., N. W.; wood floors, comp. roof; owner builds.

Ga., Atlanta—Pittman Construction Co., Rhodes Bldg., has contract for alterations and additions to store, Mitchell and Whitehall Sts., S. W., for Rhodes-Wood Furniture Co., Walter J. Wood, Gen. Mgr.; brick and tile walls, plate glass fronts, new entrance, shelving wood and tile floors, tar and gravel roof, steam heat.

Ga., Macon—Mrs. T. C. Burke, 265 Georgia Ave., remodel Western Union building; \$17,200; W. A. Stillwell & Sons, Contrs., Grand Bldg.

La., Alexandria—C. A. Schnack Jewelry Co., 1024 Second St., let contract at \$27,000 to Tudor & Ratcliff, Commercial Bank Bldg., for 2-story and mezzanine, 30x107 ft., rein. conc., brick, stone trim store, Third St.; Herman J. Duncan, Archt., 120 Murray St. 11-23

La., Baton Rouge—Cash Grocery & Sales Co., Inc., 406 First St., let contract at \$21,524 to Clifford H. King, Prescott Lane, for 1-story, 98x106 ft., brick and hollow tile sales room and warehouse; Jones, Roessle & Olschner, Archts., Raymond Bldg.

La., Monroe—J. W. Smith & Associates, Archts., Ouachita Natl. Bank Bldg., let contract at \$10,544 to L. A. Ellis, Old Central Bank Bldg., for 1-story, 30x90 ft., brick store and filling station, Ouachita Ave. and Jackson St.

La., New Orleans—Robt. S. Eddy, Jr., 2301 S. Carrollton St., let contract to O. M. Gwin Construction Co., 3503 Fern St., for repairs and additions to 2-story, brick store, 8201-05 Oak St.; \$20,000; comp. roof, ags steam heat; Jones, Roessle, Olschner & Weiner, Archts., Maison Blanche Bldg. 12-4

La., Wisner—John McLemore let contract to Dan Tisdale and J. R. Patton for 50x100 ft., brick and cone, store and corrugated iron warehouse to replace recently burned structure; to be occupied by Carl Shipp & Son, and City Barber Shop; Carl Shipp, Sr., Archt.; Carl Shipp, Jr., Engr. 11-27

Mo., St. Louis—John T. P. Van Der Hayden, Jr., 1227 Gravois Ave., has permit for \$12,000, 2-story, 30x60 ft., brick store and dwelling, 227-29 Gravois Ave.; comp. roof, steam heat; Chas. A. Klute, Bldr., 3548 S. Grand Ave.; F. J. Kolb, Archt., 3855 Shaw St.

Okla., Tulsa—Following sub-contracts awarded on 6-story, brick, terra cotta and rein. conc. addition and remodeling present store, 7 W. Third St., for S. H. Kress & Co., 114 Fifth Ave., New York, for which J. W. Van Horn, Box 571, Tulsa, has general contract: Excavating, W. M. McMichael, 21st St. and Arkansas River; plumbing, Watt Plumbing, Heating & Supply Co., 608 S. Cincinnati St.; electrical, East Side Electric Co., 3244 E. 15th St., all Tulsa; heating and ventilating, Rapp Heater Co., 40 E. 34th St., New York; struc. steel, Kansas City Structural Steel Co., 21st St. and Metropolitan Ave., Kansas City, and Cosden Bldg., Tulsa; Edw. F. Seibert, Company Archt. 11-27

Tex., Harlingen—G. C. Howell excavating for 1-story, 50x80 ft., brick store on Jackson St.; work by Contractor Robinson.

Tex., San Antonio—F. & W. Grand-Silver Stores, Inc., 902 Broadway, New York, let contract at \$96,741 to J. E. Morgan, Milam Bldg., San Antonio, for 2-story and basement, 93x150 ft., brick, steel and rein. conc. store, 200 block E. Houston St.; L. J. Johnson, Company Archt.; J. W. Beretta Engineers, Inc., Construction Supervisors, Natl. Bank of Commerce Bldg., San Antonio; electrical, \$6932, Graham & Collins Electric Co., Main Ave. at Quincy St.; plumbing and heating, \$8430, A. H. Shafer, 829 N. St. Marys St.; sprinkler system, \$3548, Texas Auto Sprinkler Co., Central Bldg., all San Antonio; elevators, \$5595, Moffat Machinery Co., 510 W. Third St. 12-4

## Trade Literature

**Screen and Washing Machinery.**—Two new catalogs issued by the Stephens-Adamson Manufacturing Co., Aurora, Ill., feature conveying, screening and washing equipment, one being devoted to sand and gravel machinery and the other to stone crushing plants. Each publication deals particularly with recent developments in plant arrangement and units for handling and producing materials simply and economically. Typical layouts are shown for plants of different sizes and processes and emphasis is placed on the importance of an adequate preliminary survey before building the plant.

**Used Machinery.**—Bulletin No. 11 devoted to used machinery for crushing, pulverizing, filtering and drying purposes has been issued by the Consolidated Products Company, Inc., New York. It illustrates and lists jaw crushers, crushing rolls, revolving and vibrating screens, reduction crushers, shovels and cranes, elevators, air compressors, rotary dryers, rotary kilns, tube mills, air separators, Hardinge mills, pebble mills, swing hammer mills, boilers, Raymond roller and beater mills and other equipment.

**Overproduction.**—"The Menace of Overproduction—Its Cause, Extent and Cure," edited by Scoville Hamlin, has been published by John Wiley & Sons, Inc., Brooklyn, N. Y. The book presents facts as to the extent of overproduction in many fields of industry, defining it primarily as plant capacity in excess of market demand. The text embraces chapters by various authorities, each dealing with the aspect of industry with which the writer is familiar.

**Insulation.**—The United Cork Companies, Lyndhurst, N. J., have issued the 1931 edition of their insulation handbook, for users of refrigeration and others interested in insulation for low temperatures. It deals with technical data, construction methods, insulation details, blue print specifications and manufacturers' catalog data. The company manufactures cork insulation and has Southern offices in Baltimore and Atlanta.

**Combustion Recorders.**—The Hays Corporation, Michigan City, Ind., has issued catalog RA-31 devoted to Hays combustion meters for CO<sub>2</sub>, draft and flue gas temperature and Hays boiler panels. It is illustrated with half-tones and line drawings to show mounting dimensions, method of installation, operating principle and general appearance of the equipment.

### Dodge Service School

A large number of representatives of the Dodge distributing organization from all sections of the United States, attended the opening session of the Dodge Service School, inaugurated by the Horace E. Dodge Boat and Plane Corporation at its plant at Newport News, Va. The initial session, in charge of Dodge boat engineers and engine experts, lasted one week and was devoted to instructions in motor alignment, reverse gear adjustment, ignition adjustment, starter and generator problems and other phases of service requirements. The company plans another session of the school next spring, making it a semi-annual affair.



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Special quality for Stapling  
and Binding

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Highest Quality  
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MANUFACTURERS AND CONTRACTORS



WE ARE fully equipped to supply  
fabricated materials and to install  
complete piping systems for Electric  
Power Stations, Blast Furnaces, Steel  
Mills, Coke Works, and Industrial  
Plants of every description—backed  
by an experience of more than a  
quarter century.

### PITTSBURGH PIPING & EQUIPMENT CO.

43rd St. and A. V. R. R., Pittsburgh, Pa.  
New York Chicago San Francisco Cleveland  
220 Broadway Peoples Gas Bldg. Call Bldg. Ulmer Bldg.  
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Dee Bldg. Occidental Bldg. General Motors Bldg.



Brings packages to car—takes curve at door—delivers  
them to far end of car, waist high.

## Clark's Car Loading Kit



Greatest advance in car loading and un-  
loading equipment in 50 years. Eight short  
sections, added to standard TwinVeyor line,  
loads first one end of car, then opposite end,  
then center section. Handles any packaged  
freight. Unloading just as rapid. A power  
head, at the warehouse end, keeps twin  
spiral tubes turning toward each other—  
the load rides easily, smoothly, swiftly.

For instance, bags travel 90 ft. per min.,  
1800 bags per hr.

The Clark Trutractor Co.

Battle Creek, Mich.

Attach this  
ADVERTISEMENT  
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## CAST IRON PIPE -AND FITTINGS-

American Cast Iron Pipe Company  
Birmingham, Ala.  
SALES OFFICES IN PRINCIPAL CITIES



## Water Works Valves

"Built to a Standard"

Write for details—today!

VOGT BROTHERS MFG. CO.

INCORPORATED  
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## ALLIS-CHALMERS MFG. CO.

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DESIGNERS AND BUILDERS OF

Steam Turbines, Electrical Machinery, Steam, Gas  
and Oil Engines, Centrifugal Pumps, Crushing  
& Cement Machinery, Etc.

## UNIVERSAL CAST IRON PIPE

THE CENTRAL FOUNDRY COMPANY  
Graybar Bldg., 43rd St. and Lexington Ave., New York, N. Y.  
Chicago Birmingham Dallas San Francisco

no packing no calking no bell holes

One-Fifth  
The  
Weight of  
Cast Iron  
Pipe

AN ABSOLUTELY TIGHT DURABLE PIPE  
The lap riveted seam repeats its cycle every twelve inches, forming a broad-  
stiffening rib of great value, and makes Root pipe one-third stronger than any  
other type of pipe construction. Light weight and simple connections reduce  
transportation handling and erection costs. Suitable for conveying water, air,  
gas, exhaust steam and powdered coal.

ABENDROTH & ROOT MANUFACTURING COMPANY  
Pipe Specialties Continuously Since 1867. Sales Office: Woolworth Bldg., N. Y.

One-Third  
The  
Weight of  
Wrought  
Pipe

## INDUSTRIAL PIPING

Power Piping Co., Pittsburgh, Pa.

POWER  
PIPING  
FOR EVERY INDUSTRIAL NEED



# WANT SECTION

## THE CLASSIFICATIONS IN THIS SECTION ARE:

Machinery and Supplies	Building Materials and Equipment	Bids Asked
Under this heading are reported requests for data, prices and literature and information on machinery, supplies and miscellaneous materials of a wide variety.	This division comprises all classes and kinds of materials and equipment used in building and construction projects of every kind.	Includes bids asked by U. S. Government, States, districts, municipalities, firms and individuals for machinery, materials, supplies and construction work.
<i>Items in this department are published without charge and these columns are open for the publication of wants of all kinds relating to construction work, machinery, materials and supplies.</i>		

### Machinery and Supplies

**Air Hammer.**—Bristol Steel & Iron Works, Inc., Bristol, Va.-Tenn.—Wants prices and data on Hazel hammer; will consider first class used hammer, 5x5 in., self contained with compressor, complete in every particular.

**Conveyors (Gravity).**—Cecil W. Wood, Hedgesville, W. Va.—Wants prices and data on gravity roller conveyor, used.

**Milling Equipment.**—Jonesboro Roller Mill Co., J. H. Little, Pres., Jonesboro, Ark.—Wants prices and data on elevator equipment, head house, mixers, grinders and corn meal and chop mill.

**Pipe (Galvanized).**—L. H. Smith & Co., 10 Drayton St., Savannah, Ga.—Want prices and data on 10,000 ft. of used, 3-in. galv. pipe; good condition; quote prices delivered.

**Woodworking Machinery.**—T. Gordon Watts, care First Presbyterian Church, Bryan, Tex.—Wants prices and data on new and used, light woodworking machinery, including combination circular rip and cut-off saws, small bench planers or jointers, hollow chisel mortiser, band saw, shaper, wood lathe, light variety woodworking outfit; all machines to be used in fine cabinet work, hardwood materials.

D. F. Tracey, Box 55, Huntington, W. Va.—Wants prices and data on following:

- (1) **Band Saw Mills**—5 and 6 ft., complete with filing room equipment, prefers also extra 8x10 in. or 10x12 in. twin engine sawmill carriage feed
- (2) **Woodworking Machinery**—42 or 48-in. endless bed, 3-drum sander, direct motor drive; 30-in. single cabinet surfacer, direct motor drive, round cylinder, section feed rolls.

M. K. Frank, 220 E. 42nd St., New York, N. Y.—Wants prices and data on following:

- (1) **Cars (Mine)**—50, Sanford Day, drop bottom, steel, not over 26 in. high, 42 or 44-in. gauge
- (2) **Generator Set**—2300 volt, a. c. to 250 volt, d. c.
- (3) **Locomotives**—two 6-ton, low type, gathering
- (4) **Motor**—100 kw., synchronized
- (5) **Plane Parts**—complete incline sheave drum equipment for plane, 2000 ft. long with two 10-ton steel monitors
- (6) **Tipple Equipment**—4 track, with at least 2 loading booms of about 1000 tons daily capacity.

**Road Building Equipment.**—Ing. Juan Agustín Valle, Dirección Nacional de Caminos, Avenida de Mayo 1370, Buenos Aires, Argentina—Wants prices and catalogs on road building equipment.

**Well Pumping Unit.**—Reither & Lindsay, Archts., Cape Girardeau, Mo.—Want information and prices.

### Miscellaneous

**Road Building Material.**—Ing. Juan Agustín Valle, Dirección Nacional de Caminos, Avenida de Mayo 1370, Buenos Aires, Argentina—Wants prices and catalogs on road building materials.

### Building Material and Equipment

Clymonts & Heinicke, Wainwright Bldg., St. Louis, Mo., want prices on following for \$40,000 apartment:

**Electric Refrigerators**  
**Flooring**—hardwood, tile  
**Incinerator**  
**Roofing**—built-up  
**Terra Cotta Trim**

F. M. McConihe & Co., Inc., Bldrs., 10 Jackson Place, Washington, D. C., want prices on following for \$75,000 dwelling:

**Cast Stone**  
**Electric Refrigerators**  
**Elevators**  
**Flooring**—hardwood, linoleum, terrazzo, tile  
**Limestone**  
**Roofing**—slate  
**Tile**—hollow  
**Brass and Bronze Work**

Fred R. Comb Co., Contrs., 2113 Chicago Ave., Minneapolis, Minn., estimating on Air Corps barracks and non-commissioned officers' quarters, Scott Field, Belleville, Ill., wants sub-bids and quotations on materials until Dec. 17; plans and specifications may be seen at Quartermaster Dept., U. S. Army.

Geo. P. Waller, Vice Pres.-Cashier, First-Columbus National Bank, Columbus, Miss., will, in Spring, purchase new fixtures and reconstruct vault.

John W. Cowper Co., Contr., Inc., State Planters Bk. Bldg., Richmond, Va., estimating on 5 barracks, Naval Operating Base (Training Station), Hampton Roads, Norfolk, Va., desires sub-bids by Jan. 3.

Bernard Evander, Archt., 20 E. Lexington St., Baltimore, Md., wants prices on following for \$150,000 auditorium:

**Dumb Waiters**  
**Electric Refrigerators**  
**Flooring**—hardwood, terrazzo, tile, composition  
**Incinerator**

**Limestone**  
**Marble**  
**Metal Doors**  
**Rolling Partitions**  
**Roofing (Flat)**—built-up, tile  
**Sprinklers**  
**Tile**—gypsum, hollow  
**Vaults**  
**Vault Lights**  
**Ventilators**  
**Wire Glass**  
**Brass and Bronze Work.**

Col. C. C. Robison, Morgantown, W. Va., wants prices on following for \$50,000 armory:

**Steel Sash and Trim**  
**Tile**—hollow, interior  
**Wire Glass.**

L. G. Burgess, Contr., 3917 Maryland St., Little Rock, Ark., wants prices on following for \$20,000 apartment for F. T. Murphy:

**Electric Refrigerators**  
**Flooring**—hardwood, tile  
**Incinerator**  
**Plaster Board**  
**Roofing**—built-up, tile

Reither & Lindsay, Archts., Cape Girardeau, Mo., want prices on following for dwelling:

**Flooring**  
**Roofing**—slate.

### Bids Asked

**Acetylene Gas and Oxygen.**—Marine Corps, Q. M. Dept., Washington, D. C.—Bids Dec. 17 for 12 cylinders of acetylene gas and 4 cylinders of oxygen, delivery Quantico, Va.

**Bakery Equipment.**—Marine Corps, Q. M. Dept., Washington, D. C.—Bids Dec. 15 for furnishing and installing bakery equipment, marine barracks, Farris Island, S. C.

**Band Saw.**—See Miscellaneous Machinery, etc.

**Barges.**—Inland Waterways Corp., Munitions Bldg., Washington, D. C.—Bids Dec. 20 for constructing 50 barges, 2 types of design will be constructed involving approx. 25,000 tons steel.

**Bridge.**—West Virginia. See Bridges, Culverts and Viaducts.

**Bridge.**—Washington, D. C. See Construction News—Bridges, Culverts and Viaducts.

**Bridges.**—State of Missouri—Bids for 25 bridges. See Construction News—Bridges, Culverts and Viaducts.

**Dredge Equipment (Floating).**—Hewitt-Phelps Machinery, Inc., 20th St. at Fourth Ave., South, St. Petersburg, Fla.—Wants prices and data from manufacturers of floating dredge equipment, both dipper stick and hydraulic types.

**Dredging.**—U. S. Engr. Office, Mobile, Ala.—Bids Dec. 22 for dredging approx. 3,000,000 cu. yd. material, Mobile Bay Channel.

**Drills and Hammers.**—See Miscellaneous Machinery, etc.

**Fittings (Cast Iron).**—See Water Works Material and Equipment.

**Footway Repairs.**—Md., Baltimore. See Construction News—Roads, Streets and Paving.

**Core Cutting-off and Coning Machine.**—See Miscellaneous Machinery, etc.

**Globes.**—District Commrs.—Bids Dec. 15 for 425 medium globes for incandescent lamp posts complete, and 1335 small globes complete.

**Granite.**—Office of Executive Officer, Arlington Memorial Bridge Comsn., Navy Bldg., Washington, D. C.—Bids Dec. 30 for furnishing, finishing, delivering and setting granite blocks for pedestals of the four equestrian groups to be erected on bridge plaza at east end of Arlington memorial bridge; consists of 16 blocks, 8 blocks weighing approx. 40 tons each, 8 blocks approx. 20 tons each; about 5000 cu. ft. aggregate quantity.

**Grinders.**—See Miscellaneous Machinery, etc.

**Kettles.**—See Miscellaneous Machinery, etc.

**Lamp Post Parts.**—District Commrs., Washington, D. C.—Bids Dec. 17 for cast iron parts for lamp posts for use in electrical department.

**Lumber.**—District Commrs., Washington, D. C.—Bids Dec. 22 for 15,272 pieces bridge lumber, southern pine or Douglas fir.

**Machine Tools.**—See Miscellaneous Machinery, etc.

**Metal Shaping Machine.**—See Miscellaneous Machinery, etc.

**Miscellaneous Machinery, etc.**—Bureau of Supplies and Accounts, Navy Dept., Washington, D. C.—Bids Dec. 19 for motor driven horizontal boring, drilling and milling machine, woodworking machine, motor driven double head pipe and nipple threading machine and motor driven pipe threading and cutting machine; bids Jan. 6 for motor driven double wheel grinders.

**Miscellaneous Machinery, etc.**—Bureau of Supplies and Accounts, Navy Dept., Washington, D. C.—Bids Dec. 16 for motor driven heavy duty metal shaping machine; bids Dec. 19 for motor driven automatic screw machine, motor driven band saw; bids Jan. 6 for motor driven radial drill, motor driven sensitive bench drills, pneumatic drills and hammers, motor driven high speed metal cutting saws, core cutting-off and coning machine, aluminum steam jacketed kettles.

**Pig Lead.**—See Water Works Material and Equipment.

**Pipe (Galvanized Steel).**—See Water Works Material and Equipment.

**Pipe and Nipple Threading Machine.**—See Miscellaneous Machinery, etc.

**Piles (Creosoted Yellow Pine).**—Panama Canal, Office of Gen. Pur. Officer, Washington, D. C.—Bids Dec. 19 for creosoted Southern yellow pine piles, Sch. 2614.

**Road.**—Waco, Tex. See Construction News—Roads, Streets and Paving.

**Roads.**—Kanawha County, Charleston, W. Va.—Bids Dec. 17 for 2 roads. See Construction News—Roads, Streets and Paving.

**Road.**—Shreveport, La. See Construction News—Roads, Streets and Paving.

**Roads.**—State of Missouri—Bids for 37 roads. See Construction News—Roads, Streets and Paving.

**Roads.**—State of Kentucky—Bids for 10 roads. See Construction News—Roads, Streets and Paving.

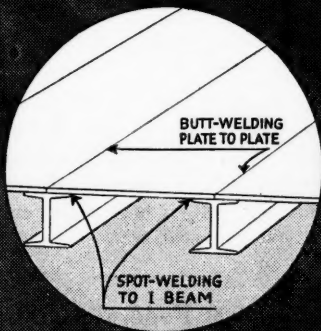
**Roads.**—State of West Virginia—Bids for 2 road projects. See Construction News—Roads, Streets and Paving.

**Road Roller.**—Office of Chief of Engineers, Munitions Bldg., Washington, D. C.—Bids Dec. 16 for 10-ton road roller.

**Saws (Metal-cutting).**—See Miscellaneous Machinery, etc.

**Screw Machine.**—See Miscellaneous Machinery, etc.

**Sea Wall, etc.**—Constructing Quartermaster, Fort Monroe, Va.—Bids Jan. 2 for sea wall and Embankment, Langley Field, Hampton, Va.



Applying Granite City Plates for Battle Deck Floor in new building of Superior Structural Steel Company, St. Louis.

## Battle Deck Floors Reduce Dead Weight **50%**

*Increase rentable area in multi-storied buildings one floor in every twenty*

**T**O quote Mr. F. H. Frankland, Director of Engineering Service, American Institute of Steel Construction, "With the usual type of building construction, the dead weight of the floor is 70 lbs. to 80 lbs. per square foot. The Battle Deck Floor, on the other hand, imposes a load on the girders of only 30 lbs. per square foot. The substitution of welded steel plate and I beams for

heavier materials of construction in the fabrication of floor panels for multi-storied buildings for the same height allows an increase in rentable area of one floor in every twenty."

The Granite City Steel Company, makers of Granite City Plates and Sheets, will be glad to furnish further information on Battle Deck Flooring to those interested in its use and application.

Chicago  
Dallas  
Kansas City  
Los Angeles



San Francisco  
Salt Lake City  
St. Louis  
St. Paul

# GRANITE CITY STEEL CO. GRANITE CITY ILLINOIS

Galvanized, Blue Annealed and Black Sheets - Plates and Tin Plate



## INDUSTRIAL NEWS OF INTEREST

Items of news about industrial, railroad or financial interests, building operations, construction work, municipal improvements, or the sale of machinery or the letting of contracts in the South or Southwest, are invited from our readers, whether they are advertisers, or subscribers, or not. We invite information of this character from readers in the North and West about their Southern business operations, as well as from Southern readers. News of value will be published just as readily when from non-advertisers as from advertisers.

**Shop Equipment.**—District Comms., Washington, D. C.—Bids Dec. 18 for surfacer, jointing machine swing cut-off saw, band saw machine, tilting table saw, shaper, bolt threading machine, 2 lathes, grinder, drill grinder, rivet machine, garage press, 2 drill presses, sewing machine, electric metal shear, metal cutting machine, boring mill, 2 horizontal air compressors, and air receiver.

**Sprinkler System.**—Treasury Dept., Office of Supv. Archt., Washington, D. C.—Bids Dec. 30 for automatic fire sprinkler system in U. S. Treasury building, Washington.

**Tank and Tower.**—See Water Works Material and Equipment.

**Tanks (Steel).**—District Comms., Washington, D. C.—Bids Dec. 19 for 6 horizontal steel tanks for oil storage, 12,000 gal. capacity.

**Timbers (Creosoted Southern Yellow Pine or Douglas Fir Timbers).**—Panama Canal, Office of Gen. Pur. Officer, Washington, D. C.—Bids Dec. 23 for creosoted Southern yellow pine or Douglas fir timbers, Sch. 2613.

**Timber (White Oak).**—U. S. Engr. Office, Huntington, W. Va.—Bids Dec. 19 for white oak timber for gate tops, Locks No. 7 and 10, Kanawha River.

**Tower Erection.**—District Comms., Washington, D. C.—Bids Dec. 15 for erecting 2 radio towers at No. 10 police station.

**Water Works Material and Equipment.**—Town of Fairfax, Va., Thos. P. Chapman, Mayor—Bids Dec. 19 for following material and equipment: one 100,000 gal. steel tank on 75 ft. tower; 2688 ft. of 8-in. and 21,224 ft. B & S pipe, Class B or equal; 7.42 tons of c. i. fittings, 10,380 ft. of 1½ in. galv. steel pipe; 42 fire hydrants with steamer connections; seven 8-in. and thirteen 6-in. H. E. gate valves; one set hydrant and valve boxes; 16 1½-in. iron cks with brass plugs; sixteen c. i. valve boxes for 1½-in. valves; 20 c. i. valve boxes for 6- and 8-in. valves; 16,000 lbs. of virgin pig lead; 500 lbs. oil-jute; J. B. McCrary Eng. Corp., Construction Engrs., Atlanta, Ga.

**Woodworking Machine.**—See Miscellaneous Machinery, etc.

### Insulated Aluminum Wires and Cables

The General Cable Corporation, New York, announces a varied line of insulated aluminum wires and cables under the trade name "Alectral." The introduction of these wires and cables marks a new development in the field of insulated conductors, and permits the use of aluminum in a broader field. Initial production includes network cable, non-metallic underground cable, insulated line wire, armored cables, magnet wire, starter cable and car wiring cable, with fittings and accessories. Connections are made by applying high pressures to sleeves by means of a specially designed light weight hydraulic press.

### Opens New York Office

For the convenience of clients and to dispense information regarding its products and installations, the Sterling Engine Company, Buffalo, N. Y., announces the opening of an office at 900 Chrysler Building, New York City, with William Edgar John as manager. The company manufactures Sterling high duty internal combustion engines and has on display at its New York office three models—the Petrel, the Dolphin and the Viking 6.

### Cellulose Acetate Production

The production of cellulose acetate has reached a point where it is now available for commercial uses, according to the Du Pont Rayon Company, New York, which employs this process largely in the production of rayon, particularly at its Richmond and Waynesboro plants in Virginia. It is also being used by the industries in the manufacture of non-inflammable photographic film, cellulose plastics, electrical installations, electrical condensers, non-shatterable glass, phonograph records, lacquers and coating solutions, while research chemists are looking for and finding new uses for it. Because of its ability to transmit ultra violet rays, it has recently been employed for coating wire screens in poultry house windows, solariums and the like.

### Corporate Existence Ceases

The corporate existence of the New Jersey Wire Cloth Company, Trenton, manufacturers of wire cloth, wire netting, wire fencing, wire lath and wire work, will cease on and after January 1, 1931, and the business be continued by the John A. Roebling's Sons Company, Trenton, parent organization, which will handle sales and distribution of these products through the Roebling branches. The Roebling Company will assume all contracts and obligations of the New Jersey Wire Cloth Company, while the same personnel will continue the manufacture and sale of the entire line.

### Business Outlook Encouraging

W. T. Haggard, general sales manager of the J. A. Fay & Egon Company, Cincinnati, Ohio, manufacturers of woodworking machinery, returned recently from a hurried business trip by airplane to the Pacific Coast, Dallas, Tulsa and Kansas City, and reports the business outlook very encouraging at all points visited.

### Texas Representative Appointed

J. K. Webb has been appointed Texas representative for the Allen-Bradley Company, Milwaukee, Wis., manufacturers of a. c. and d. c. automatic starters and radio resistors. Mr. Webb is an electrical engineer and his office is at Dallas.

### George E. Purple

George E. Purple, president of the Flexible Steel Lacing Company, Chicago, who recently died at LaGrange, Ill., was born in Ohio in 1864 and moved with his parents to Knoxville, Tenn., and later to Kidder, Mo. When still a young man he went to Chicago and held several positions as a tool and machine designer. With A. B. Beach and P. S. Rinaldo, he founded the Flexible Steel Lacing Company in 1907 and held the position of president until his death.

## \$2,500,000 OFFICE BUILDING

### Contract Awarded for 30-Story Kansas City Power and Light Structure

Kansas City, Mo.—General contract to erect a 30-story office building, estimated to cost \$2,500,000, for the Kansas City Power and Light Co. has been awarded to the Swenson Construction Co., local builders. In addition to 30 floors available for offices, plans for the structure call for a 41-foot penthouse and above this an 87-foot tower in which beacon lights will be installed. Set-backs have been provided on the sides of the building at the seventeenth, twenty-first and twenty-third floors. Contracts were awarded several months ago to the Long Construction Co., Kansas City, for the foundation and to the Kansas City Structural Steel Co. for the structural steel.

### \$634,000 Bid for Filling

Quantico, Va.—Low bid for dredging and filling at the marine barracks here has been submitted to the Bureau of Yards and Docks, Navy Department, by the Trimount Dredging Co., Boston, Mass., at \$634,780. The work will involve approximately 1,000,000 cubic yards of dredging deposited in fill and about 1,800,000 cubic yards of excavation deposited in fill, trestle and drains.

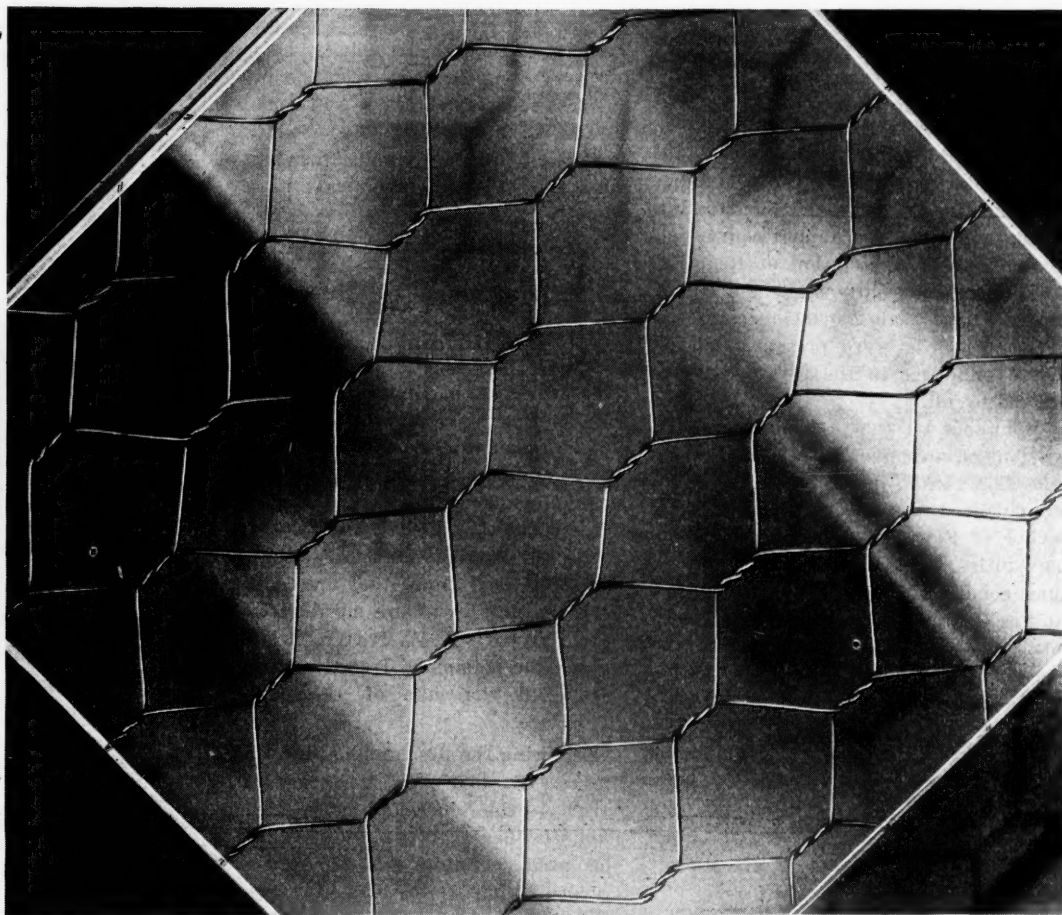
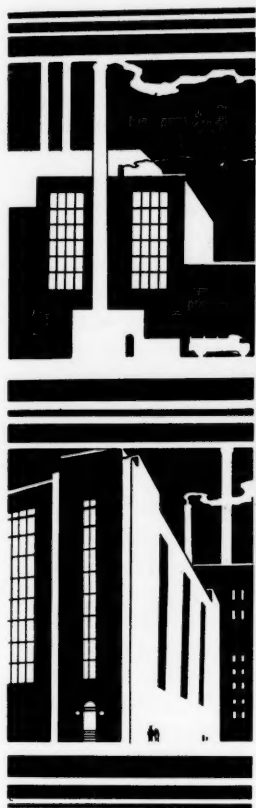
## Speed St. Louis Building Operations to Relieve Unemployment

St. Louis, Mo.—Construction activities soon to be inaugurated here are expected to materially help the unemployment situation. Work will be under way soon on the new \$5,000,000, 21-story St. Louis Mart and Terminal Warehouse, for which bids have been received and on which 1000 workers will be employed at its construction peak. A civic committee has been appointed to speed construction of the new \$3,500,000 Federal building to face the Memorial Plaza site and a new annex to the post office, while the city has decided to hasten clearing work on the Memorial and Aloe plazas. Employees of the Chevrolet

Motor Co. and the Fisher Body Corporation plants have been recalled as rapidly as possible and both plants will be operating at normal capacity by January 1, 1931, it is thought, employing about 6000 operatives.

### \$575,000 Federal Building

Jacksonville, Fla.—H. J. Klutho of this city has been commissioned by the Treasury Department, Jas. A. Wetmore, Acting Supervising Architect, Washington, to prepare plans and specifications for a second mail building at the Terminal Station here to cost \$575,000. Congress has appropriated funds for this structure and also for a \$2,000,000 Federal building for the uptown section.



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## Florida Real Estate Men Confident

The adoption of resolutions which included endorsement of the Uniform Mortgage and the Florida Land Registration measures marked the annual convention of the Florida Association of Real Estate Boards, recently held at Miami Beach. More than 200 members of the 24 local boards were present, and assured confidence in the future was expressed by all.

Prominent on the program were discussions of such live topics as real estate selling, taxation, including the need for standardized assessment appraisals; a review of Florida realty investment opportunities, and business and agricultural conditions in the state. Confidence in the Citizens Tax and Finance Committee was made part of the record and the movement to readjust the taxation of real estate was given impetus.

Among the numerous speakers and their subjects were: "An Industrial Florida," George H. Hilty, Florida Power & Light Company; "Business Conditions as They Affect Florida," Dr. J. T. Hollsworth, University of Miami; "Higher Standards for Broker's License," Walter W. Rose, chairman of the Florida Real Estate Commission; "Standardized Appraisals for Tax Purposes," Charles P. Glover, Tampa; "Put Your Shoulder to the Wheel," State Senator Alfred H. Wagg, Palm Beach, and "Our Job," Paul O. Meredith, Orlando, executive secretary. President Louis E. Hall's annual address was titled, "Our 1930 Experience."

The election, held at the meeting at Pancoast Hotel, resulted in the following unanimous choices: President, Lon Worth Crow, Miami; vice-presidents, J. Alvin Register of Jacksonville, O. P. Swope of Orlando, R. O. Evans of Waucho, Frank R. Jewett of Vero Beach, W. D. Chandler of Hollywood, John B. Green of St. Petersburg and A. C. Binkley of Pensacola; recording secretary, Miss Kate L. Jeffcott, Fort Myers; treasurer, Walter H. Schultz, Winter Park; executive secretary, Mr. Meredith. The next convention will be held at Lakeland.

## Record Prosperity "Not Far Off"

A statement attributed to Harvey S. Firestone, published in the Johnson City Chronicle of November 30, is to the effect that, "We shall have in America, and beginning reasonably soon, an era of prosperity for the masses of our people eclipsing anything of the kind we have had before."

"I am not saying this with any purpose to 'boom business.' I know that

business cannot be artificially 'boomed' for very long or very widely. When business recovery comes, it will come not because of any widely-advertised 'Buy-More-For-Prosperity' campaigns, but because those who advertise have more to offer."

## Foundrymen to Meet in Birmingham

The selection of Birmingham, Ala., by the American Foundrymen's Association for the regional meeting to be held January 20 and 21 has been made the base of a comprehensive program by the entire industry in that great foundry district. While the Birmingham foundrymen have no organized local group, they are cooperating as a unit to assure success for the session, reports J. W. Porter, vice-president of the Hammond Iron Co., Birmingham, and chairman of the publicity committee.

Following the first regional meeting at Moline, Ill., last year, the organization turned to the South and chose Birmingham, the heart of the Southern foundries area. Visitors will be shown the numerous important blast furnace operations, producing Southern pig iron and foundry iron; the largest pipe manufacturing concern in America and other outstanding producers of cast pipe and fittings. Within 25 miles of Birmingham are located 36 jobbing foundries and foundries of manufacturing plants making all or part of the castings they use.

The first day of the meeting will be spent in visits to various factories and the second day will be devoted to reading and discussion of papers on subjects of importance and interest to the industry.

## Millions in Leather Belting

Leather belting shipped or delivered by manufacturers in 1929 was valued at \$21,240,658, according to figures from the Department of Commerce, a decrease of one-tenth of 1 per cent from 1928. The total for 1929 was made up as follows: Flat belting, 11,394,005 pounds, valued at \$19,552,612; other leather belting, \$1,688,046. Also reported were leather packing valued at \$4,527,134; receipts for belt repairs, \$1,116,191, and other products, \$986,500. In 1929, 196 establishments employed 1971 wage earners at wages aggregating \$2,809,677.

Four per cent road bonds in the amount of \$5,000,000 have been sold by the Missouri State Highway Commission, Jefferson City, to a syndicate headed by the Guaranty Company of New York.

## \$30,000,000 POWER PROJECT

### Big Osage River Plant to Be Completed in 1931

Bagnell, Mo.—The new \$30,000,000 hydro-electric power project under construction on the Osage River here for the Union Electric Light and Power Co., St. Louis, is expected to be completed and in operation by October 1, 1931. The length of the dam between abutments will be 2543 feet and its height from bedrock to the roadway will be 148 feet, while the lake to be created will cover an area of 95 square miles, with a length of 125 miles and a shore line of 1300 miles. The installed power capacity will be 201,000 horsepower.

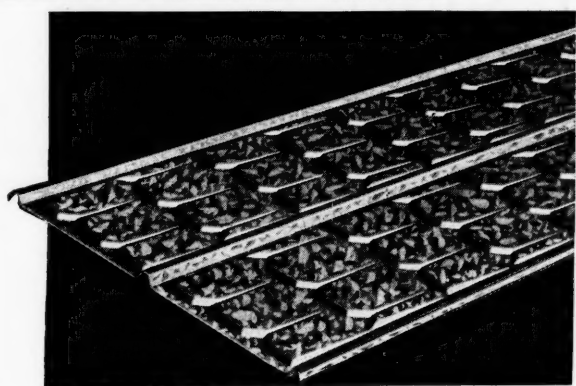
Work on the development was started August 6, 1929, and the first concrete poured April 21, 1930. Construction involves the following: Earth excavation, 937,000 cubic yards; rock excavation, 72,500 cubic yards; sheet steel piling driven, 546,500 square feet; concrete, 545,000 cubic yards. There will be six main units, each water wheel to have a maximum capacity of 33,500 horsepower at 90 feet net head, and ten main transformers, one of which will be a spare, each with a maximum capacity of 20,000 k. v. a. Transmission lines will include a single circuit Osage-Page avenue line of 132,000 volts, 138 miles, on wood frame, and an Osage-River Mines line of similar voltage, 122 miles, on steel towers. Engineering and general construction are being handled by the Stone & Webster Engineering Corp., Boston, Mass.

## Productive Cooperation

Cooperation with farmers of the community and in nearby counties has been made a feature of the activities of the Chamber of Commerce of Kingstree, S. C., according to H. E. Montgomery. A car of fine heifers has been brought in from Mississippi and sold to the farmers at cost, and a committee was sent to Starkville, Miss., to purchase 96 head of milk strain springers, these young cows also to be sold at cost. The Chamber is encouraging diversified agriculture in its area.

## \$7,500,000 Trade School

Birmingham, Ala.—Funds estimated in excess of \$7,500,000 have been incorporated in a foundation, according to the terms of the will of the late Harvey G. Woodward, for the creation of an industrial or trade school in the vicinity of Birmingham. The body to administer the funds is the Alabama Educational Foundation, of which Ray Lange, Tom Bowron and Paul Angell are the trustees named in incorporation papers.



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BARCLAY A. GREENE, President

1301 Woodswether Road, Kansas City, Mo.

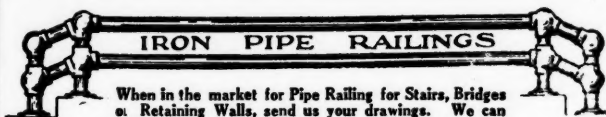
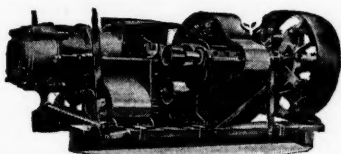
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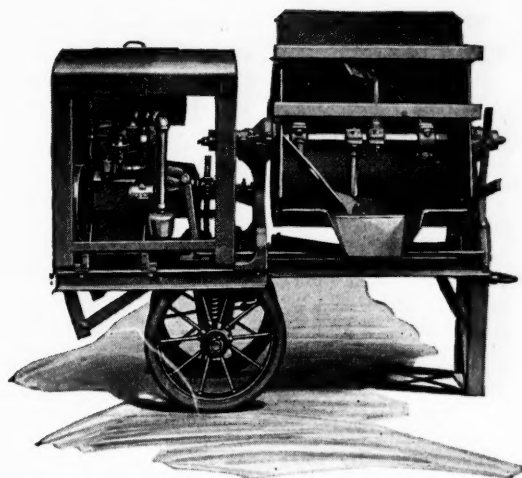
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# FINANCIAL NEWS

## Bond Issues Proposed

Ark., Russellville—Pope County, J. Q. Hill, County Judge, H. M. Spaulding, Clk., contemplates election in January on \$150,000 courthouse bonds.

Ark., Wynne—Cross County, C. M. Stacy, County Judge, voted \$25,000 courthouse bonds.

D. C., Washington—Washington Suburban Sanitary Comsn., T. Howard Duckett, Chmn., 804 Tower Bldg., 14th and K St., N. W., opens bids Dec. 17 for \$300,000 4½% bonds, guaranteed by Montgomery and Prince George's Counties, Maryland.

Fla., Jacksonville—City Comsn., M. W. Bishop, Sec., opens bids Dec. 20 for \$2,000,000, not to exceed 6% refunding bonds; will not be sold for less than par. 10-30

La., Baton Rouge—East Baton Rouge Parish Policy Jury opens bids Jan. 17 for \$100,000 excess revenue bonds.

Miss., Greenwood—City Council, John Ashcraft, Mayor, plans issuing \$12,000 fire department equipment and apparatus bonds on Dec. 16.

Miss., Grenada—City Council will issue \$14,000 paving bonds.

Miss., Jackson—State, H. C. Yawn, State Treas., denies report that state plans selling \$5,000,000 highway bonds. 12-4

Miss., Pascagoula—Orange Grove Consolidated School Dist. voted \$15,000 bonds.

N. C., Raleigh—State, O. Max Gardner, Governor, voted \$2,000,000 additional world war veteran bonds.

N. C., Winston-Salem—Forsyth County Comms., J. M. Lentz, Clk., opens bids Dec. 15 for \$88,000, not to exceed 6% bond anticipation loan notes.

Okla., Chickasha—Grady County votes Dec. 22 on \$300,000 courthouse and jail bonds. 10-18

Okla., Cushing—City, S. P. Alles, Chmn. Bd. of City Comms., reported, voted \$300,000 light and power plant bonds. 11-20

Okla., Holdenville—City votes Dec. 16 on \$14,000 lighting system bonds.

Okla., Okarche—City, Harry Hunter, Mayor, soon sell \$50,000 water works bonds. 12-4

Okla., Oklahoma City—City, E. M. Fry, City Mgr., advises votes Dec. 16 on \$8,800,000 bonds; water main extensions, \$400,000; 4 1,000,000-gal. tanks, \$400,000; filter plant extensions, \$100,000; clarifier, \$55,000; clear well, \$45,000; sewage disposal, \$800,000; main storm sewers, \$1,200,000; main sanitary sewers, \$400,000; Central Ave. project, \$625,000; Western Ave. project, \$500,000; Walnut St. project, \$150,000; Walker St. widening, \$410,000; convention hall, \$1,000,000; city hall, \$600,000; fair park improvements, \$420,000; comfort stations, \$30,000; city detention hospital, \$150,000; purchase of park property, \$550,000; fire stations and equipment, \$500,000; municipal garage and fire station, \$175,000; police signal system, \$50,000; construction of incinerators, \$240,000. 12-4

Okla., Perry—City defeated \$249,000 water works bonds. 10-9

Okla., Tulsa—Tulsa County opens bids Dec. 15 for \$500,000 Tulsa State Fair bonds. 11-20

S. C., Cayce—City, R. C. Allen, Mayor, votes Dec. 16 on \$55,000 water works and sewerage bonds. 10-9

Tex., Aspermont—Stonewall County votes Dec. 20 on \$580,000, 5 and 5½% bonds; \$500,000 road; \$50,000, Road Dist. No. 5. 9-25

Tex., Baird—Callahan County Comms. Court called election for Dec. 27 on \$1,000,000 road bonds. 12-4

Tex., Big Spring—Howard County, reported, votes Dec. 23 on \$900,000 road bonds. 10-23

Tex., Columbus—City, O. A. Zumwalt, Mayor, recently voted \$25,000 bonds for erecting city hall and fire station building.

Tex., Cuero—City voted \$30,000 bonds for widening and extending streets. 11-13

Tex., George West—George West Independent School Dist. voted \$35,000 bonds for erecting school. 10-30

Tex., Rosenberg—City voted \$69,000 bonds to refund outstanding warrants and \$50,000 paving bonds. 11-13

Va., Falls Church—Town plans water works bond issue.

Va., Lynchburg—City, R. W. B. Hart, City Mgr., may issue \$500,000 bonds for public improvements.

## Bond Issues Sold

Ala., Mobile—City sold \$300,000 bonds to Marx & Co., Birmingham, at 99.60, including \$150,000 sewer, \$150,000 water works.

Ga., Cuthbert—City recently sold \$20,000, 5%, \$1000 denom. street improvement bonds to First National Co., Atlanta. 8-21

La., Clinton—City sold \$27,500, 6% water works bonds to F. P. Clark & Co., Alexandria, for par and accrued interest and \$1 premium. 9-25

La., Independence—City, Mayor and Bd. of Aldermen, sold \$10,000, 6%, \$100 denom. Sewerage Dist. No. 1 bonds to Interstate Trust & Banking Co., New Orleans, La., at par and accrued interest.

Mo., Jefferson City—Bd. of Fund Comms., L. D. Thompson, State Auditor, sold \$5,000,000 road bonds, Series "N" to Guaranty Co.; First Detroit Co., both New York; Foreman State Corp.; Ames, Emerich & Co., both Chicago; Otis & Co., Cleveland; Mississippi Valley Co.; Mercantile Commerce Co., both St. Louis; First Securities Corp. of Minneapolis, Minneapolis, Minn.; Stern Bros. & Co.; Fidelity National Corp., both Kansas City, and Laird, Bissell & Meeds, Wilmington, Del., at \$4,954,450. 11-20

N. C., Charlotte—City sold \$121,000, 3½% notes for retiring other notes to American Trust Co.

N. C., Lenoir—Franklin County Comms., S. C. Holden, Clk., sold \$22,000, not to exceed 5%, \$1000 denom. school building bonds to Glaspell, Vieth & Duncan, Davenport, Ia., at 100.47. 11-27

Okla., Lone Wolf—First National Bank of Lone Wolf, reported, purchased \$20,000 water bonds.

S. C., Moncks Corner—Berkeley County sold \$75,000, not to exceed 5% highway construction and past indebtedness bonds to Walter, Woody & Heimerdinger, Cincinnati, Ohio. 11-13

S. C., Spartanburg—Spartanburg Metropolitan Dist., Thos. H. Daniel, Chmn., sold \$500,000, sewer bonds to syndicate composed of First Detroit Co.; Emanuel & Co., both New York, and Robinson-Humphrey Co., Atlanta, Ga., at 100.569. 11-27

Tex., Abilene—Taylor County, Tom K. Epley, County Judge, sold \$100,000, 4½%, \$1000 denom. jail building bonds to J. M. Radford, Abilene, at par. 11-27

Va., Richmond—City, L. B. Edwards, City Comptroller, sold \$500,000, 4½%, \$1000 denom. gas works refunding bonds jointly to First & Merchants National Bank, Richmond; G. M. P. Murphy & Co. and Guaranty Co. of New York, both New York, at \$504,695.

## New Financial Corporations

Md., Baltimore—Continental Securities Holding Corp., Baltimore Trust Bldg., chartered; Warren N. Akers, J. Martin McDonough.

Mo., Wellsville—W. R. Lavender, St. Louis, and associates organizing bank.

N. C., Raleigh—State Trust Co., capital \$100,000, chartered; J. W. Bailey, Hendersonville.

Arkansas National Bank, B. R. Davidson, Pres., and First National Bank, A. T. Lewis, Pres., both Fayetteville, merged under name of First National Bank.

Bank of Franklin, Lee Crawford, Pres., and Citizens' Bank, S. L. Franks, Pres., both Franklin, N. C., merged.

Bank of Stephens, J. F. Halton, Pres., and Peoples Bank, R. B. Allen, Pres., both Stephens, Ark., merging.

Directors of First National Bank, S. B. Campbell, Pres., and Farmers' Bank of Southwest Virginia, both Wytheville, Va., adopted resolutions relative to consolidation.

First National Bank, D. T. Lacy, Pres., and Lindsay National Bank, S. M. King, Pres., both Gainesville, Tex., merging.

First National Bank, A. B. Scarborough, Pres., Bonham, Tex., recently acquired First State Bank, J. B. May, Pres., Savoy, Tex.; Savoy institution will be moved to Bonham.

New Orleans Bank & Trust Co., G. O. Vincent, Pres., and Interstate Trust Banking Co., L. H. Dinkins, Pres., both New Orleans, merged.

Ned Holman, V.-Pres., Exchange National Bank, Tulsa, Okla., and president of Southwest Corp., bank stock holding firm, controlling 22 banks, acquired extensive interest in Liberty National Bank, Oklahoma City, Okla., and will become chairman of board of directors Jan. 1.

## Norfolk and Western Statement

Operating revenues of the Norfolk and Western Railway Company for October, 1930, amounted to \$8,113,981, as compared with \$10,578,894 for October, 1929, with railway operating expenses for October, 1930, of \$5,095,911, as compared with \$5,704,790 for the corresponding month in 1929. Net income for October, 1930, was \$2,930,422, as compared with \$4,522,934 for October, 1929. For ten months ended October 31, 1930, operating revenues amounted to \$85,803,214, as against \$97,974,148 for the similar period ended October 31, 1929, and railway operating expenses to \$51,001,960, as compared with \$55,247,974 for the 10-month period ended October 31, 1929. Net income for the ten months ended October 31, 1930, amounted to \$26,791,137, as compared with \$34,123,620 for the similar period ended October 31, 1929.

## Earnings Show Increase

A condensed financial statement of the Engineers Public Service Company, New York, and constituent companies, for October, 1930, shows gross earnings of \$4,467,140, an increase of \$152,881 as compared with October, 1929. Net operating revenues for the month amounted to \$1,873,545 as compared with \$1,728,242 for October, 1929. For 12 months ended October 31, 1930, gross earnings reached a total of \$52,945,391, as compared with \$48,854,102 for the year ended October 31, 1929, while net operating revenue for the year was \$22,592,821, compared with \$20,524,070 for the year ended October 31, 1929. Southern subsidiaries of the company include the Virginia Electric and Power Company, Gulf States Utilities Company, Eastern Texas Electric Company, Key West Electric Company, El Paso Electric Company, Savannah Electric and Power Company, Baton Rouge Electric Company and Louisiana Steam Products, Inc.

## \$5,000,000 Missouri Road Bonds

Jefferson City, Mo.—A \$5,000,000 road bond issue bearing an interest rate of 4 per cent, recently sold to a syndicate headed by the Guaranty Company of New York, brought a price of \$4,954,450 and accrued interest to the date of delivery of the bonds. Other members of the syndicate include the First Detroit Company, New York; the Foreman State Corp. and Ames, Emerich & Co., Chicago; Otis & Co., Cleveland, Ohio; the Mississippi Valley Co. and the Mercantile Commerce Co., St. Louis; the First Securities Corp., Minneapolis, Minn.; Stern Bros. & Co., and the Fidelity National Corp., Kansas City, Mo., and Laird, Bissell & Meeds, Wilmington, Del. The bonds are due from December 1, 1943 to 1947, inclusive.

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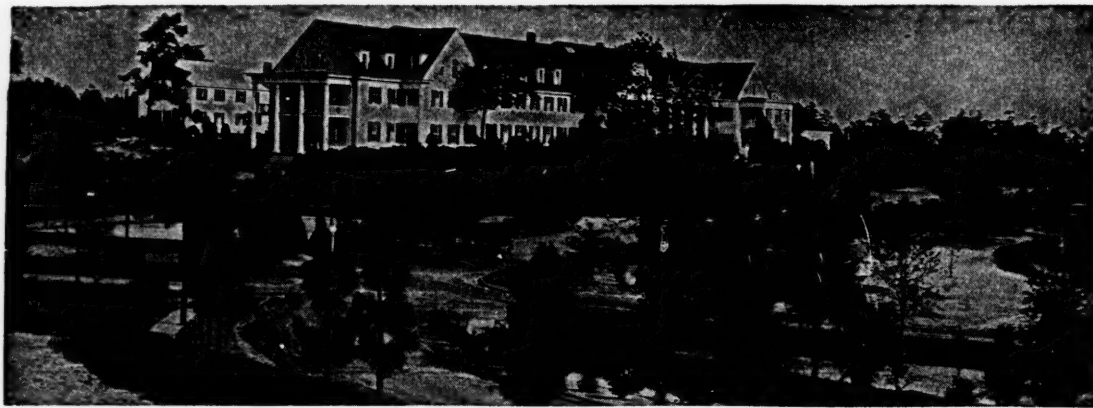
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# PROPOSALS

BOND ISSUES

BUILDINGS

PAVING

GOOD ROADS



Bids close December 22, 1930.

U. S. Engineer Office, Mobile, Ala.—Sealed bids, in duplicate, subject to the conditions contained in the specifications, will be received until 11 o'clock a. m. December 22, 1930, and then publicly opened, for furnishing all labor and materials and performing all work of dredging approximately 3,000,000 cubic yards of material in a section of the Mobile Bay Channel. Further information on application.

Bids close December 30, 1930.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., December 3, 1930—Sealed proposals will be opened in this office at 3 p. m., December 30, 1930, for furnishing all labor and material required for automatic fire sprinkler system in the U. S. Treasury building, Washington, D. C. Drawings and specifications may be obtained at this office in the discretion of the supervising architect, Jas. A. Wetmore, Acting Supervising Architect.

Bids close December 30, 1930.

OFFICE OF THE EXECUTIVE OFFICER, Arlington Memorial Bridge Commission, Navy Building, Washington, D. C. Sealed bids will be received in this office until 11 A. M., Eastern Standard Time, December 30, 1930, and then publicly opened in room 1613 Navy Building, for the furnishing, finishing, delivering and setting of the granite blocks for the pedestals of the four equestrian groups to be erected on the Bridge Plaza at the east end of the Arlington Memorial Bridge. The granite to be

### GENERAL INFORMATION

About Proposal Advertising  
in Manufacturers Record

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FORMS CLOSE: 10 A. M. Tuesday.

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### THE DAILY CONSTRUCTION BULLETIN OF THE MANUFACTURERS RECORD

Published every business day, gives information about the industrial, commercial and financial activities of the South and Southwest.

The Daily Construction Bulletin can be used to advantage when copy cannot reach us in time for publication in the Manufacturers Record before bids are to be opened or when daily insertions are necessary to meet legal requirements.

The rate is the same for both publications—35 cents a line each insertion.

furnished and set consists generally of sixteen blocks, of which eight blocks weigh approximately 40 tons each, and eight blocks approximately 20 tons each; the aggregate quantity of the granite being about 5900 cubic feet. Further information upon application.

Bids close December 17, 1930.

### Library Building

BUREAU OF BUILDINGS

Baltimore, Md.

Sealed proposals, in duplicate, endorsed: "PROPOSAL FOR CONSTRUCTION OF THE ENOCH PRATT FREE LIBRARY," and addressed to the Board of Awards of Baltimore City, will be received by Mr. A. M. Denhard, City Register, at his office in the City Hall, Baltimore, Md., until 11 A. M. (Eastern Standard Time), Wednesday, December 17, 1930.

Each bid must be accompanied by a certified check of the bidder, drawn on some Clearing House Bank in the amount of FIFTY THOUSAND DOLLARS (\$50,000.00) and made payable to the Mayor and City Council of Baltimore.

The successful bidder will be required to give bond in the amount of the contract price.

Drawings and specifications may be obtained at the office of the Bureau of Buildings, on the first floor of the Municipal Office Building, Baltimore, Md., on and after November 28, 1930, on deposit of a certified check payable to the Mayor and City Council of Baltimore, in the amount of \$100.00, which will be refunded upon the return to the Bureau of Buildings of said drawings and specifications, complete.

The Board of Awards reserves the right to reject any or all bids.

W. G. HAMMOND,  
Buildings Engineer.

Approved:  
MAYOR WM. F. BROENING,  
President Board of Awards.

Bids close December 16, 1930.

### Water Works and Sewer Improvements

SPARTANBURG METROPOLITAN SUB-DISTRICT "B"  
SPARTANBURG COUNTY, S. C.  
Spartanburg, S. C.

Sealed proposals for the construction of water works and sewer systems for The Spartanburg Metropolitan Sub-District "B," near Spartanburg, S. C., will be received by the Committee for Spartanburg Metropolitan Sub-District "B" at the office of the Spartanburg Metropolitan Commission in Spartanburg, S. C., at or before ten (10) o'clock A. M. December 16th, 1930.

The work will consist of the construction of approximately 6.3 miles of 8-inch and 10-inch sewer mains, 103 manholes, 6 flush tanks, 1.6 miles of 6-inch and 8-inch cast-iron water mains, 3 miles of galvanized iron pipe lines, 17 hydrants and all appurtenances.

Each proposal must be accompanied by a cashier's check for \$3000.00, payable to the Committee for Spartanburg Metropolitan Sub-District "B," as a bidder's guarantee. A bidder's bond will not be accepted. A surety bond will be required of the successful bidder.

Plans and specifications may be seen at the office of the Spartanburg Metropolitan Commission or at the office of the Engineers, 208 Montgomery Building, Spartanburg, S. C. Plans and specifications will be furnished on application to the Engineers, accompanied by a deposit of \$10.00. Seven dollars of this amount will be returned to those making bona fide bids and returning plans within two weeks from date of letting.

The Committee for Spartanburg Metropolitan Sub-District "B" reserves the right to reject any and all bids or any part of a bid, and to award to a bidder any part of the work as seems best for the interest of the Spartanburg Metropolitan Sub-District "B."

South Carolina law requires that all contractors bidding on work in this state in excess of \$10,000.00 procure a bidder's license.

THE HARWOOD BEEBE COMPANY,

Engineers,

Spartanburg, S. C.

U. M. KILGO, Chairman;

J. E. BROCK,

S. C. BAXTER,

The Committee for Spartanburg Metropolitan Sub-District "B."

Bids close December 16, 1930.

### Sanitary Sewers

Baton Rouge, La.

SEALED PROPOSALS will be received by the Commission Council at the City Hall, Baton Rouge, Louisiana, until 11 A. M. on Tuesday, December 16, 1930, for the construction of Sanitary Sewers. Said proposals will be opened and read publicly at the Commission Council meeting on above date and hour.

The work includes the furnishing of all labor, materials and equipment of every kind necessary to construct approximately twenty-two (22) miles of sanitary sewers ranging in size from eight (8) inch to thirty (30) inches and in depth up to twenty-six (26) feet.

All bids must be made on the official proposal form.

Plans and specifications are on file and may be examined at the office of L. J. Voorhies, C. E., Consulting Engineer, City Hall, Baton Rouge, La. A set of plans and specifications may be obtained upon deposit of \$25.00, \$15.00 of which deposit will be refunded upon the return of plans and specifications in good condition within ten days after contract is awarded.

A certified check on a bank satisfactory to the Commission Council in the sum of Ten Thousand (\$10,000.00) Dollars must accompany each proposal. The certified check must be conditioned that if bid is accepted a contract will be entered into and the performance of same secured within ten days after notification of acceptance of bid. In case bid is rejected or contract entered into, certified check will be returned, otherwise said check will be retained by the City of Baton Rouge, La., as liquidated damages. Successful bidder will be required to furnish surety bond through a local agency in the full amount of the contract.

The right is reserved to reject any or all bids.

L. J. VOORHIES, C. E.,  
Consulting Engineer.

Bids close December 16, 1930.

### Gas Plant and Franchise

Fredericksburg, Va.

An offer has recently been submitted to the Common Council of this city for the sale of the municipal gas plant and a gas franchise, and in considering said offer the Council has decided the best interests of the city warrant submitting the proposition to a bid open to all interested parties.

By order of the Council, sealed bids will be received at the office of L. J. Houston, Jr., City Manager, Fredericksburg, Va.,

until 2 P. M. Tuesday, December 16th, 1930, at which time and place they will be publicly opened and read, for the sale of the municipal gas plant and a gas franchise for a period not to exceed 30 years. Bids must state cash offer for plant and franchise, and the new rate or rates for gas the bidder will establish.

A certified check or bidder's bond amounting to 3% of bid must accompany bid, which check or bond, except that of the successful bidder, will be promptly returned and that of the successful bidder will be applied as a credit upon signing of contract, but will be forfeited to the city should said bidder fail or refuse to sign the contract.

The right is reserved to reject any or all bids, or to accept any bid which the Council deems to be to the best interests of the city.

By order of Special Committee.

JOHN F. GOULDMAN, JR.,  
Chairman.

L. J. HOUSTON, JR.,  
City Manager.

Bids close December 19, 1930.

### Material and Equipment

Fairfax, Va.

Sealed bids will be received at the Office of the Mayor of Fairfax, Virginia, until 2.00 P. M. December 19, 1930, and then opened, for furnishing the following material and equipment:

- 1 100,000 Gal. Steel Tank on 75' Tower.
- 2,688 Ft. 8" B & S Pipe Class "B" or equal.
- 21,224 Ft. 6" B & S Pipe Class "B" or equal.
- 7.42 Tons C. I. Fittings.
- 10,380 Ft. 1 1/2" Galv. Steel Pipe.
- 42 Fire Hydrants with Steam Connection.
- 7 8" H. E. Gate Valves.
- 13 6" H. E. Gate Valves.
- 1 Set Hydrant & Valve Boxes.
- 16 1 1/2" Iron Cocks with Brass Plugs.
- 16 C. I. Valve Boxes for 1 1/2" Valves.
- 20 C. I. Valve Boxes for 6" and 8" Valves.
- 16,000 Lbs. Virgin Pig Lead.
- 500 Lbs. Oiled Jute.

Bid Sheets and Specifications will be furnished on application to the Mayor or the Construction Engineers.

The Town reserves the right to reject any and all bids.

THOS. P. CHAPMAN, Mayor.

LEWIS M. COYNER, Clerk.

J. B. McCrary Eng. Corp.,  
Construction Engineers,  
Atlanta, Georgia.

## CLASSIFIED OPPORTUNITIES

### MINERAL AND TIMBER LANDS, WATER POWER, MISCELLANEOUS PROPERTIES

FOR SALE—30,000 acres Oil Land. Now leased for oil. Drilling to begin soon. Price \$4.50 per acre.  
J. C. HARRISON & CO., Clarksville, Ark.

FOR SALE—1248 A. Coal and Timber land. Estimated to cut 8 to 12 million feet. Other minerals and Salts on property. Within 6 miles railroad.  
J. C. GIBSON, Appalachia, Va.

#### MANGANESE DEPOSITS

FOR SALE ONLY—Rich manganese deposits in Ala. near Birmingham.  
THE MIDVALE MINING & DEVELOPMENT CO.,  
W. H. Amerine, Secretary  
Box 1121, Montgomery, Alabama.

#### TIMBER AND TIMBER LANDS

13,000 ACRES of hardwood timber land for sale at a great sacrifice.  
T. B. FINLEY,  
North Wilkesboro, N. C.

### Rates, Terms and Conditions

RATES: 30 cents a line each insertion. Minimum space accepted, four lines. In estimating the cost allow six or seven words of ordinary length to line. When the advertisement contains a number of long words proper allowance should be made.

#### Rates for Special Contract:

- 100 lines 28c a line
- 300 lines 26c a line
- 500 lines or more 25c a line

TERMS: For transient advertising cash with order; check, postoffice or express money order or stamps accepted.

On special contract advertising bills are rendered monthly, covering space used each month, payable within ten days.

CONDITIONS: No patent medicine, oil or mining stock advertisements or questionable or undesirable advertisements will be accepted. The assistance of our readers in excluding undesirable advertisements is requested. No display type used.

### MINERAL AND TIMBER LANDS, WATER POWER, MISCELLANEOUS PROPERTIES

#### TIMBER AND TIMBER LANDS

FOR SALE—5 million feet saw timber, poplar, oak, gum, pine. None over 1 1/2 miles from railroad station. T. W. McAllister, Buena Vista, Ga.

ACREAGE BARGAINS—We have several desirable tracts; some are well stocked with fast growing pine timber. Many have enough advance growth to pay a good return on the investment above carrying charges during the holding period. Let us select the tract and manage it, taking our remuneration as a percentage of net earnings.

THE JAMES D. LACEY COMPANY,  
1409 Barnett Bldg., Jacksonville, Fla.

#### PINE SEEDS

1930 CROP, WELL CLEANED, highest germination, Longleaf Pine seed, \$3.00 per pound. Slash Pine seed \$5.00 per pound. Loblolly Pine seed \$6.00 per pound. Shortleaf Pine seed \$7.50 per pound. Also seedlings reasonably. Full reforestation information on application. Write for catalog.  
F. M. ELLIS, Griffin, Ga.



## FARM, FRUIT AND TRUCK LANDS

## GEORGIA

**FOR SALE**—Forty-one acres in north Georgia, one-hour drive from Atlanta; 10-room house, 3 baths, electric lights, modern in every particular; wonderful mountain view, state highway; a real bargain for quick sale. Address P. O. Box No. 1, Canton, Georgia.

**FOR SALE**—3,300 acres finest farm land in State of Georgia, 85% cultivable; 50% now in cultivation. First class general farming or dairying proposition or ideal for manufacturing site. Railroad and public highways running through lands with station about center of tract. Large brick and concrete warehouses and barn with adjacent side-tracks. Brick commissary and dwelling; good tenant houses; telephone, electricity and artesian water. Ideal climate; near good churches and schools. Best references as to going, high class proposition. Sell for part cash, balance terms. Address 9060 care of Manufacturers Record.

## LOUISIANA

**80 ACRE FARM** for sale or trade, located three miles from Clarksdale, Miss., on Federal Highway. Ideal for dairy, poultry or cotton. Good buildings and other improvements. Good neighborhood.

A. J. HANSON, Opelousas, La.

## SOUTH CAROLINA

## ISLAND FOR SALE.

Private estate and game preserve. Four thousand acres, South Carolina coast, one thousand cleared, beautiful woods and scenery, several old home sites, high bluffs, fish, oysters and game, duck pond, artesian wells, cottage tenant houses.

J. W. BARNES,  
Mendel Building,  
Savannah, Ga.

## TEXAS

**LOWER RIO GRANDE** Valley orchards and acreage at actual value. Owner's price direct to you. Send for list. ROBERTS REALTY CO., Realtors, McAllen, Tex.

## HUNTING PRESERVE

## IDEAL VIRGINIA HUNTING PRESERVE AND FARM—1450 Acres.

700 acres woodland, balance farming land, pasture and meadows, watered by large creek and small streams. Attractive modern nine-room residence, three baths, steam heat and water system. Manager's house, several tenant settlements and stock barns.

Abundance of game, such as wild turkeys, quail, rabbits, squirrels and fur-bearing animals; some deer.

Located thirty miles from Lynchburg, seven miles from small town. Photographs, price and full details on request. Non-resident owner, anxious to sell.

GEO. V. VENABLE & CO.,  
Lynchburg, Virginia.

## BUSINESS OPPORTUNITIES

**FOR SALE, REASONABLE**—Telephone business in good section of North Carolina on paved highway. If interested address No. 9064, care Manufacturers Record.

**CONTRACTING FIRM** with good reputation in State Highway Work desires working partner with at least two hundred thousand dollars cash in order that business may be enlarged. Address P. O. Box 493, Leominster, Mass.

**FOR SALE**—The Southern Coal Company of Asheville, North Carolina, established for 22 years, is for sale. Large and perfectly equipped yard doing business of 20,000 tons annually, and lucrative fuel oil business. Private bids received. Communicate with J. G. DESHLER, Receiver,  
10 N. Pack Square, Asheville, N. C.

## BUSINESS OPPORTUNITIES

**LONG TERM LOANS**, large amounts, made on industrial, mercantile, sawmill properties. THOS. W. GILMER, Attorney, Bay Minette, Alabama.

**BUSINESS AND ENGINEERING EXECUTIVE** available. Outstanding accomplishments. Investment considered. Address No. 9069 care of Manufacturers Record.

**WOOLEN MILLS**, Tenn. Long established business. Complete operating facilities in good working condition. Wholesale and retail trade. Average sales \$80,000. Attractive price. Address No. 9070 care of Manufacturers Record, Baltimore, Md.

**MANUFACTURERS**—Write for our FREE Classification Sheets of inventions for sale, covering 135 main subjects, and in one or more of which you will doubtless be interested. ADAM FISHER MFG. CO., 578 Enright, St. Louis, Mo.

**FOR SALE**—Developed mountain park; 1600 acres, large lodge, 15 splendid cottages, home lighting plant, excellent swimming pool; on concrete highway 25 miles from Greenville, S. C.; 35 miles from Asheville, N. C. Suitable for boys or girls summer camp, sanitarium or employees outing camp. Price very reasonable. John L. Williams, Box 1612, Greenville, S. C.

## INDUSTRIAL SURVEYS

**ENGINEERING REPORTS** on resources of cities and towns. Recommendations for industrial development and zoning made by specialists in locating industries.

TECHNICAL SERVICE CO.,  
Woolworth Building New York City

## INDUSTRIES WANTED

**WELL-LOCATED** Southern town wants industry. Will furnish plant, moving expenses, additional capital and other concessions.

INDUSTRIAL SERVICE CORP.,  
Asheville, N. C.

## INDUSTRIAL PLANTS

**FOR SALE**  
**SHEET METAL PLANT**  
fully equipped and operating. Sheets and angles available at mills here. Address  
H. McDERMOTT,  
P. O. Box 42, Birmingham, Ala.

**FURNITURE PLANT FOR SALE**—Located at Cambria, Va., on main line Norfolk and Western Railroad. Fully equipped for the manufacture of medium price bedroom furniture. Sprinklered and capable of three-quarter million production. Cheap native labor and ideal climate. Ready for immediate operation. **EASY TERMS.** Address  
J. S. PICKETT, High Point, N. C.

## FACTORY AND WAREHOUSE SITES

**FOR MANUFACTURING OR WAREHOUSE**  
Corner Lot 99x340.

Well located on good street and extending back to tracks of three railroads. A special price to a quick buyer.

F. C. ABBOTT & CO.,  
201 Johnston Building,  
Charlotte, N. C.

33 years in Charlotte Real Estate.

## FACTORY SITES

**TWO AND ONE-QUARTER MILES** railroad frontage industrial sites for sale at Baton Rouge. Southern Land and Investment Company, Baton Rouge, La.

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**FREE "PATENT PARTICULARS"**  
Sterling Buck, over 23 years Registered Patent Attorney. Prompt and thorough services. Suite M 629 F, Washington, D. C.

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724 Ninth St., N. W., Washington, D. C.

## PATENT ATTORNEYS

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**PATENTS—TRADEMARKS—COPYRIGHTS**  
Charlotte office convenient to South. PAUL B. EATON, Registered Patent Attorney, 218 Johnston Building, Charlotte, N. C., and 314 McLachlen Building, Washington, D. C.

## REPRESENTATIVES WANTED

**IF YOU HAVE** a following among steam boiler operators and are not afraid to work you can make good money by selling our Boiler Compounds on commission basis. We make water analysis and guarantee results on our Water and Metal Treatments. Write for particulars.

SOUTHERN PRODUCTS CORPORATION,  
New Orleans, La.

## SITUATIONS WANTED

**MILLWORK EXECUTIVE** seeks connection; fifteen years' experience, thorough knowledge estimating, drafting, selling. No. 9065, care Manufacturers Record.

**ARCHITECT AND ENGINEER** will accept salaried job, planning repairs, alterations or future development of present plant; 14 years' experience, design, field supervision and estimating. References. P. O. Box 1562, Sta. A, Chattanooga, Tenn.

**MAINTENANCE ENGINEER**—With executive ability, expert on gas combustion, steam, gas, oil, power, generation, refrigeration, construction, machine erection, etc. Have record for low labor turnover, costs and safety. Prefer Middle West or West. Available January 1st, References. Address No. 9067, care Manufacturers Record.

## MEN WANTED

**IF YOU ARE OPEN** to overtures for new connection and qualified for a salary between \$2500 and \$25,000, your response to this announcement is invited. The undersigned provides a thoroughly organized service of recognized standards and reputation, through which preliminaries are negotiated confidentially for positions of the caliber indicated. The procedure is individualized to each client's personal requirements, your identity covered and present position protected. Established twenty-one years. Send only name and address for details.

R. W. BIXBY, INC.,  
103 Downtown Bldg. Buffalo, New York

## CONSTRUCTION WORK WANTED

**LARGE GENERAL CONTRACTING FIRM** with much experience desires work in Southern territory, preferably the Virginias, Carolinas and Georgia. Willing to undertake any large jobs, and are thoroughly equipped to handle same. Address P. O. Box 493, Leominster, Mass.

## MACHINERY AND SUPPLIES

**FOR SALE**—125 H. P. Side Crank, Taylor Mfg. Co. Steam Engine, thoroughly overhauled, weight with fly wheels 16,000 lbs. Will sell at sacrifice. TOMLIN-HARRIS MACHINE CO., Cordele, Georgia.

**TO SELL**—Westinghouse D. C. Power Plant, 110 volts, with battery, 3 generators of 1500 watts each. In good and smooth operating shape. Being removed because Power Co. energy available. Will sacrifice. Address H. J. PETTIT, Suffolk, Va.

## FOR SALE

One 48 KW, 220 volt, 3-phase, 60 cycle G. E. Generator and Skinner Engine Unit, complete—slightly used, A-1 Condition. One continuous grape unit consisting of a feed conveyor, crusher and stemmer, and press capacity 2 tons per hour.

W. M. POPE, West Bay, Florida.

## MACHINERY AND SUPPLIES WANTED

**WANTED TO BUY** used equipment for the manufacture of work shirts, work pants and overalls. Want to deal direct with owner. No. 9068 Manufacturers Record.

# Manufacturers

You are invited to utilize our industrial and engineering services on factory establishment or relocation. Complete reports on industrial advantages in areas served by our properties . . . All negotiations confidential and gratis. Address Industrial Development Department.

Associated Gas and Electric System

61 Broadway



New York City

## SHIP YARD FOR SALE

The plant of the York River Shipbuilding Corporation at West Point, Virginia. Sixty-five (65) acres of land and a number of buildings. Ideal for building yachts, speed boats and airplanes and many manufacturing lines. Splendid deepwater frontage—Railroad connections—Low freight rates—Power plant—Miscellaneous shipbuilding machinery. Has fire protection system and sewerage.

CLIMATE—Ideal for outdoor work year round.

LABOR—Abundance native—many experienced.

TAXES—Low.

LAUNCHING BASIN—325 x 120 feet.

WILL SELL AT VERY LOW PRICE.

Send for blue prints and other information.

**YORK RIVER SHIPBUILDING CORP.**

West Point, Virginia

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EQUIPMENT

SUPPLIES

## BOILERS

- 1—200 H.P. Keeler water tube, 160 lb. ASME.
- 1—400 H.P. Heine water tube, 160 lb. ASME.
- 1—600 H.P. Erie City water tube 250 lb. ASME.

READING ENGINEERING WORKS

32 N. 2nd Street Reading, Pa.

## BOILERS FOR SALE

- 2—520 H.P. B & W Stirling type W.T. boilers, complete with stokers, etc. Have had good care. To be disposed of promptly. For details write

CONS. G. E. L. & P. CO. of BALTIMORE  
Purchasing Department, Baltimore, Md.

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- Nordberg-Carels Diesel Engine—No. 30173. Type 3VE. 330 B.H.P. Speed 225. 3 Cylinder.
- General Electric A.C. Generator—No. 2540617. Type ATL. Amps. 675. Speed 225. P.F. .8. Kw. 225. 60 Cycles. 281 kv-a. 240 volts.

NEW ICE COMPANY

244 Boone Street Orlando, Florida

## BOILERS

- 7—Kewanee self contained return tubular—150 H.P. each—100 lb. pressure. No brickwork required.

M. J. HUNT'S SONS

1620 N. Delaware Ave., Philadelphia, Pa.

## BOILERS AT \$2.00 PER H. P.

Butt Strap, High Pressure, H. R. T. Boilers.

- 6—150 H.P. 150 lbs. steam pressure, Atlanta, Ga.
  - 3—150 H.P. 150 lbs. steam pressure, Augusta, Ga.
  - 3—150 H.P. 150 lbs. steam pressure, Nashville, Tenn.
  - 6—150 H.P. 140 lbs. steam pressure, River Falls, Ala.
  - 6—150 H.P. 130 lbs. steam pressure, Lake, Miss.
  - 3—Springfield water tube boilers, 242 H.P. each, 175 lbs. steam pressure, Nashville, Tenn.
- These boilers must be moved immediately. We guarantee insurance at above pressure. Write or wire for details.

W. M. SMITH & CO.  
Box 1709 Birmingham, Ala.

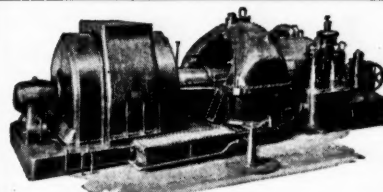
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### Electric Motors

on a Money-Back Guarantee

Save Money. Buy Now at Rock Bottom. Your choice of tremendous stock—all standard makes, all sizes, a.c. & d.c. and all GREGORY HI-GRADE REBUILT "Good as New."

Send for 80 page Bargain Sheet  
GREGORY ELECTRIC CO.  
1601 South Lincoln St. Chicago



10,000 KVA Turbo typical of 4 units recently delivered and similar to the following.

PRACTICALLY NEW 100% INTERNAL EXCELLENCE WESTINGHOUSE CONDENSING TURBO UNITS COMPLETE—INSTANT SHIPMENT

- 1—15,000 KW CW-218 Frame—1800 RPM
  - 1—10,000 KVA CW-118 Frame—1800 RPM
  - 1—7,500 KW CW-78 Frame—1800 RPM
  - 1—5,500 KVA CW-76 Frame—3600 RPM
  - 1—4,000 KVA CW-76 Frame—3600 RPM
  - 2—1,700 KVA CW-28 Frame—3600 RPM
  - 1—1,500 KVA CW-16 Frame—3600 RPM
- (3 phase, 60 cycle, standard voltages)

A.S.M.E. CODE DESIGN BOILERS 200-225 lbs.

- 2—1500 H.P. Cross Drum B & W
- 2—2650 HP Ladd Bent Tube
- 5—627 HP Stirling Plant, modern stokers, auxiliaries
- 8—504 HP B & W Vertical Steel headers, et al.

CONDENSERS MOTOR GENERATOR SETS  
Verification and proof of new equivalent condition easily reached on personal inspection  
50% to 200% saving on investment

Send us list of your requirements—or what you have for sale

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# TRANSFORMERS—SALES AND REPAIR SERVICE



A complete stock of transformers 1 to 1000 kva. Modern methods make our repair service second to none. Special service on breakdown jobs. All transformers guaranteed for one year.

Write for our new Catalog No. 124-E

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Manufacturers Record  
Baltimore, Md.



**GENERATOR**

200 KVA, 220 volt, 3 phase, 60 cycle, Burke generator direct connected to Filer-Stowell Uniflow engine.

**BOILERS**

- 2—125 H.P. locomotive portable, 125 lb. pressure, ASME code.
- 2—180 H.P. Keeler water tube, 200 lb. pressure, ASME code.
- 1—150 H.P. 72" x 18' Hor. ret. tubular, 150 lb. pressure, ASME code.

**AIR COMPRESSOR**

676 cubic foot capacity Ingersoll-Rand Imperial type 10XCB, size 15" and 9/4" x 12", 2 stage air compressor, short belt idler drive with 100 H.P. synchro-nous motor.

**METAL WORKING TOOLS**

- 2000 lb. Chambersburg double frame steam hammer.
- 1100 lb. Niles Bement Pond single frame steam hammer.
- No. 1 Nazel belt driven hammer cap. 2" x 2".
- 38"-60" x 32" McCabe 2 in 1 lathe, belt drive, taper attachment.
- 3" bar Rochester horizontal boring mill, motor drive.
- No. 4 Brown & Sharpe plain miller, belt drive, table 48" x 14".
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**THE O'BRIEN MACHINERY CO.**

113 North Third Street

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**IF IT'S PIPE OR SECOND HAND**

black or galvanized up to 12"—we have it. Cut and threaded to any length. **SPECIAL:** a carload of 3" or 4". Cheap at any time, rethreaded and coupled.

Your inquiry means—Another satisfied customer.

**HUDSON PIPE AND SUPPLY COMPANY**  
34th Street and C. R. R. of N. J. Bayonne, N. J.

**Machine Tools**

Power Equipment Boilers  
Electric Motors

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148 N. 3rd St. PHILADELPHIA

**PIPE NEW**

**SECOND HAND**  
Overhauled and Tested  
New Threads and Couplings  
Established 1904

**Albert & Davidson  
Pipe Corp.**

Second Ave., 50th-51st St., Brooklyn, N. Y.  
Telephone Sunset 1900

Second Hand  
and New  
Wrought Iron

**PIPE**

Overhauled  
Rethreaded  
and Coupled

Also Cut to Sketch

**Greenpoint Iron & Pipe Co., Inc.**  
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Large quantity new and used Govern-ment material in excellent condition, ready for immediate shipment. Low prices.

**CENTRAL PIPE & SUPPLY CO.**  
Box 1099 Charleston, W. Va.

**Reconditioned Used Pipe**

Prompt delivery from stock.  
Estimates cheerfully furnished on specification work.

**MARYLAND PIPE & STEEL CORP.**  
Ostend and Scott Sts. Baltimore, Md.

**PUMP FOR SALE**

Allis Chalmers centrifugal direct connected pump, HVC 4" 300 gal. per minute under a 460 foot head. 1750 RPM run less than 150 hours.

**AMERICAN HARDWARE & EQUIPMENT CO.**  
Charlotte, N. C.

**SATISFACTION**

**ALBERT PIPE SUPPLY CO., INC.**  
NEW-RECLAIMED-USED

**PIPE**

ALL SIZES CUT TO SKETCH  
AND STOCKED

**BERRY & NORTH 13th STS.**  
BROOKLYN, N.Y.

**GUARANTEED****PIPE**

Rethreaded, reconditioned, guaran-anteed, suitable for all practical pur-poses, furnished with new threads and couplings, 400,000 feet in all sizes from 24" to 3/4".

Also large stock of spiral pipe, sizes 7", 10", 12", 14", 20", and 24".

Large stock of valves and fittings, screwed and flanged. Can make at-tractive prices.

**MARINE METAL & SUPPLY CO.**  
167 South St., New York City

**FOR SALE****MODERN EQUIPMENT**

Consisting of refrigerating and ice equipment, direct connected to 25 cycle synchronous motors, 700,000 c. f. of refrigeration and 50 ton ice capacity, formerly owned by the United States Government. This equipment is in operation at the present time.

For further information or particulars, write:

**H. HERFURTH, Jr., Incorporated**  
609 District National Bank Building  
WASHINGTON, D. C.

## RAILROAD AND CONTRACTORS' EQUIPMENT

**SCOWS FOR SALE**

- 1—22'-6"x72'-0"x6'-6" Flat Deck.
- 1—22'-6"x72'-0"x6'-6" Covered, Fitted as Construction Office and Tool Room.
- 1—22'-6"x72'-0"x6'-6" Flat Deck, with 3'-0" High Waist Rail.
- 1—30'-0"x100'-0"x8'-6" Flat Deck, with Cement Storage House on one end.
- 1—26'-0"x86'-0"x8'-6" Flat Deck.

All of the above Scows are in good condition and can be seen at Chestertown, Md.

**SPENCER, WHITE & PRENTIS CO., of MD.**  
Phone No. 378 CHESTERTOWN, MD.

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of used machinery and equipment through the  
**Resale Department**

An advertisement in this department will help sell machinery being replaced or no longer needed in your plant.

*Rates on Request*

**MANUFACTURERS RECORD**  
Baltimore, Md.



## RAILROAD AND CONTRACTORS' EQUIPMENT



### FOR SALE OR RENT

**CRANES**  
1—20 Ton Industrial Locomotive Crane 50 ft. Boom A S M E Boiler Double Drum

1—10 Ton Northwest Gasoline Crawler Crane 50 ft. Boom  
1—Model 28—Byers Bear Cat Crane with Trencher Boom and Bucket

**HOISTING ENGINES**  
2—National Double Drum Electric Hoists—60 H.P. G.E. 220 V. 3 p. 60 cycle Motors  
1—National Double Drum Gasoline Hoist 35 H.P. Waukesha Gasoline Engine

**CONCRETE MIXERS**  
2—10S Jaeger with Le Roi Engines

**PUMPS**  
9—Domestic Diaphragm, gasoline  
1—Domestic Centrifugal, gasoline  
2—Barnes Centrifugal, gasoline

**HAMMERS**  
3—Union No. 8 Junior sheeting hammers for driving 3" Wood Sheeting

**SAMLER MACHINERY & EQUIPMENT CO.**  
Phone: Plaza 0934 208 W. Pratt St., Baltimore, Md.

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#### SOLD, BOUGHT, REPURCHASED

Stocks at Principal Points throughout the Country for prompt shipment. We buy Piling located anywhere.

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<b>LACKAWANNA DPI65</b>	<b>J &amp; L EC23.75</b>
140 pcs. 12 ft.	70 pcs. 22 ft.
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FOR SALE OR RENT

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1—Factory rebuilt Lima 1 1/4 cu. yd. capacity. This machine can be equipped with either shovel, clamshell, dragline or drag shovel attachments. Very reasonably priced. Carries new machine guarantee. Located at Lima, Ohio.

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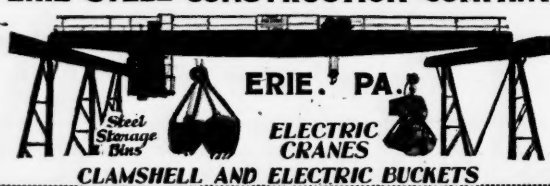


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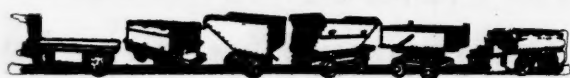



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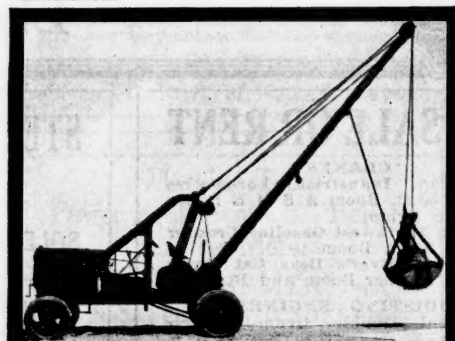


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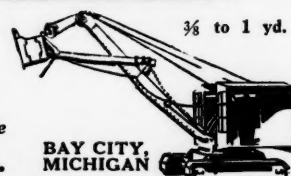
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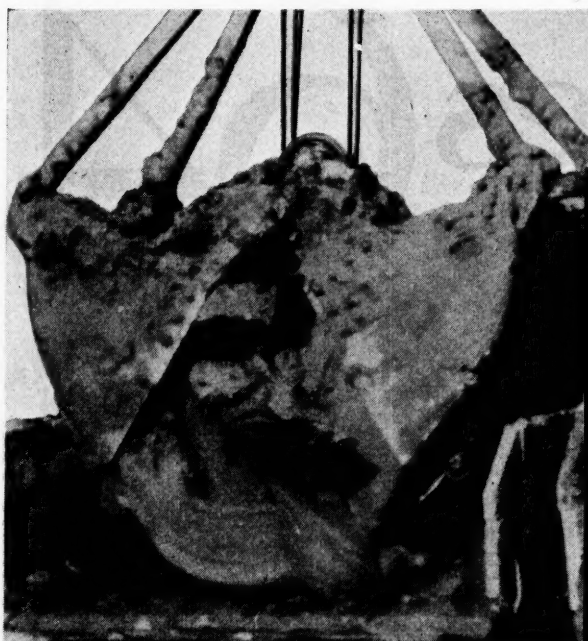
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for all engineering and industrial uses

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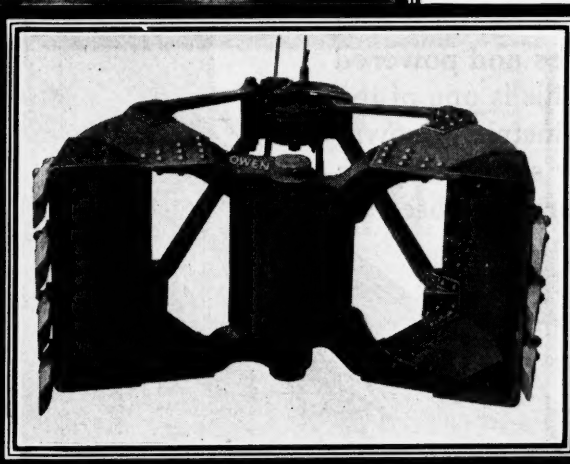
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## Why An Owen Penetrates Deep and Dumps Clean

**O**WEN Bucket shells being free from ledges or projections inside the jaws, practically eliminate resistance to compact or sticky material entering or leaving the bucket. This feature, added to an Owen's concentration of weight low in the construction, effects deep penetration and clean dumping. The results are, in the words of the Owen Guarantee, "a mouthful at every bite" and "a bigger day's work than any other bucket of the same weight and capacity." Send for a Folder illustrating and explaining this and 16 other vital points that assure Owen efficiency, endurance and economy.

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### 17 POINTS OF LEADERSHIP

1. One-piece steel cross-head.
2. No wear in upper or lower arm ends.
3. Heavy high carbon steel arms.
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14. Dropping shocks absorbed, eliminating breakage.
15. Rigid shell construction.
16. Heavy duty high carbon drop-forged steel teeth.
17. Lips or teeth points hit first.



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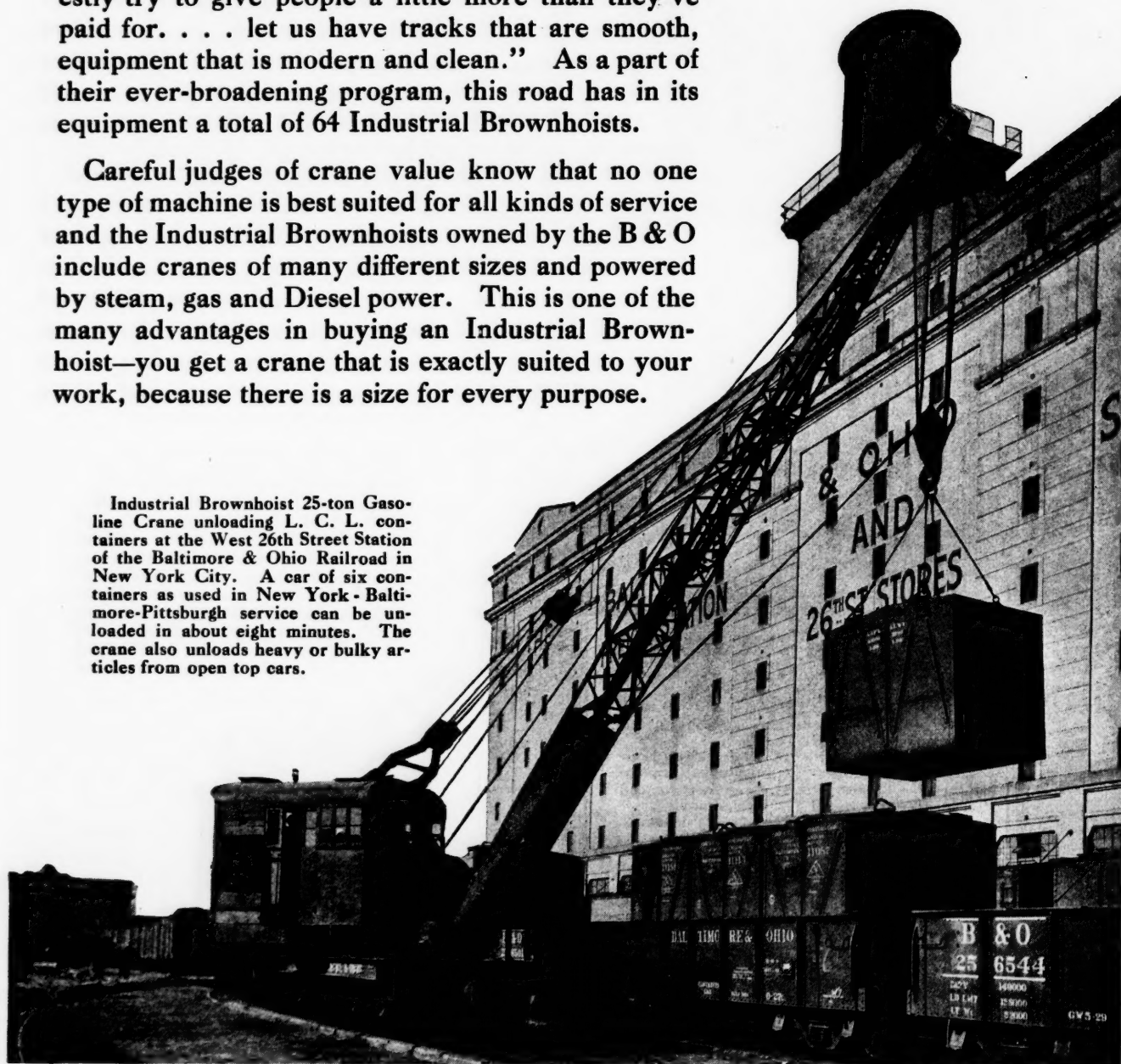


# The B & O Uses 64

Railroading today has become a highly developed personal service instead of just a matter of carrying passengers and hauling freight. Witness the Baltimore & Ohio, for example, who say, "We can honestly try to give people a little more than they've paid for. . . . let us have tracks that are smooth, equipment that is modern and clean." As a part of their ever-broadening program, this road has in its equipment a total of 64 Industrial Brownhoists.

Careful judges of crane value know that no one type of machine is best suited for all kinds of service and the Industrial Brownhoists owned by the B & O include cranes of many different sizes and powered by steam, gas and Diesel power. This is one of the many advantages in buying an Industrial Brownhoist—you get a crane that is exactly suited to your work, because there is a size for every purpose.

Industrial Brownhoist 25-ton Gasoline Crane unloading L. C. L. containers at the West 26th Street Station of the Baltimore & Ohio Railroad in New York City. A car of six containers as used in New York-Baltimore-Pittsburgh service can be unloaded in about eight minutes. The crane also unloads heavy or bulky articles from open top cars.

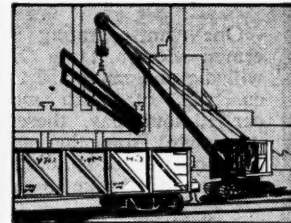
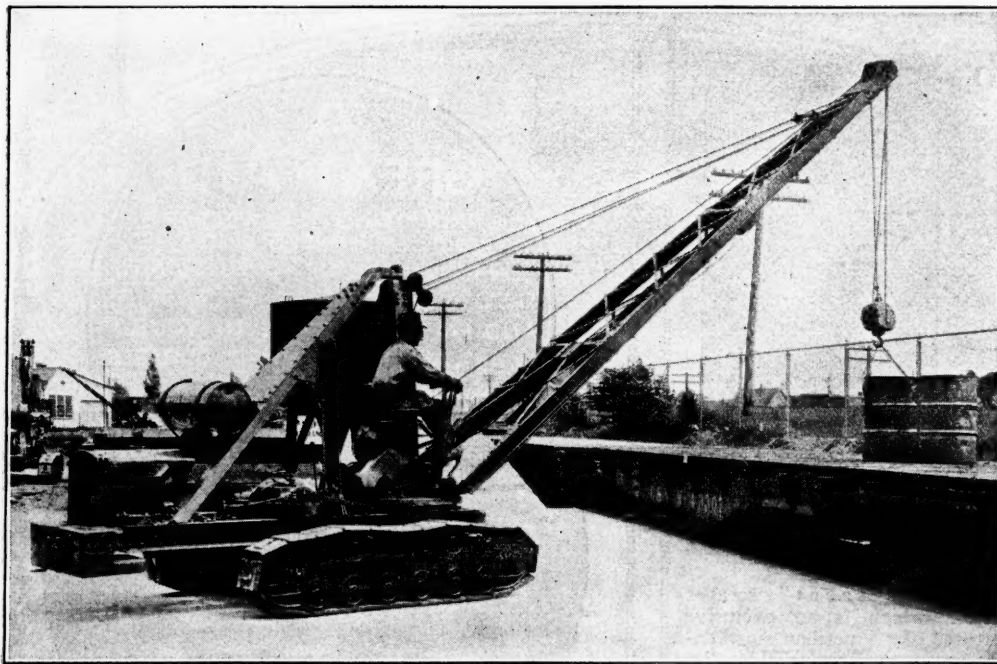


**Industrial Brownhoist Corporation, General Offices, Cleveland, Ohio**

**District Offices: New York, Philadelphia, Pittsburgh, Detroit, Chicago, New Orleans, San Francisco, Cleveland.**

**Plants: Brownhoist Division, Cleveland; Industrial Division, Bay City, Michigan; Elyria Foundry Division, Elyria, Ohio.**

# INDUSTRIAL BROWNHOIST



Loading heavy steel frames with minimum effort

# Goes anywhere—handles any job —economically!

**I**N and out of the aisles among your yards . . . storing materials . . . over by the power house handling coal or ashes . . . sand for your foundry . . . loading scrap from your factory or unloading raw materials . . .

A UNIT can go anywhere, handle any job in your plant yard . . . quickly, efficiently. Fast getting from job to job, fast while on the job. More cycles to the minute means lower handling cost per job . . . more jobs handled per day.

UNIT-Built "from rough billet to finished product," in the three great plants of the Unit Corporation of America, means a quality product backed by UNIT responsibility.

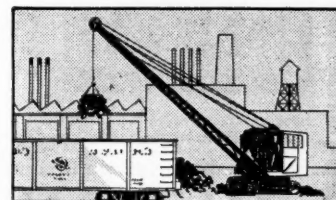
The UNIT Crane (3- and 5-ton capacities) is quickly convertible as shovel, trencher, clamshell, dragline, backfiller . . . the versatile, economical handling equipment for the plant yard.

*Detailed information will be sent promptly on request.*

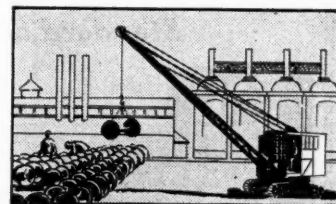
**UNIVERSAL POWER SHOVEL COMPANY**

*Division of Unit Corporation of America*

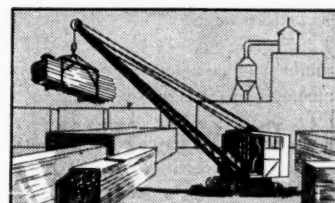
**Milwaukee, Wis.**



Equipped with electromagnet attachment . . . handling scrap



Handling car wheels . . . easily, swiftly, economically



Handling bulk lumber . . . at a real saving in time and labor



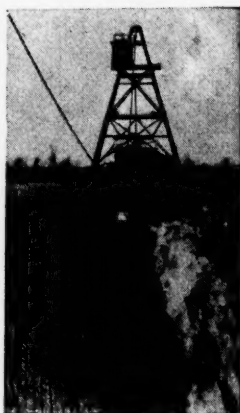
**VERSATILE MATERIAL HANDLING EQUIPMENT**



## Moving Earth for a few cents per cu. yd.

Excavating and conveying are merged into one when you use a Sauerman Power Drag Scraper. Your equipment investment is less, your operating expense is less.

One man operating a Sauerman Power Drag Scraper will dig and move 150 to 4,000 cu. yds. of earth materials per 10-hour day, these figures representing the capacity range from the smallest portable units to the big Sauerman levee-building machines equipped with scraper buckets which take 10 cu. yds. at a "bite."



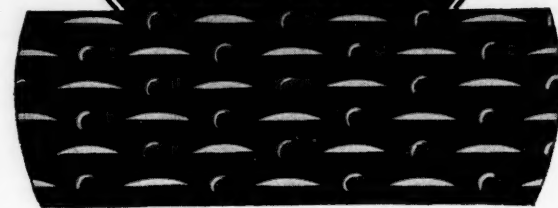
The "Crescent" scraper bucket, which is an exclusive feature of Sauerman installation, possesses remarkable digging force and great strength; at the same time it is light in weight and will handle a given tonnage of material with less power than required by other types of scrapers—all due to its unique design and construction.

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IN PROMOTING THE WELFARE  
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THEY WILL GREATLY REDUCE SLIP  
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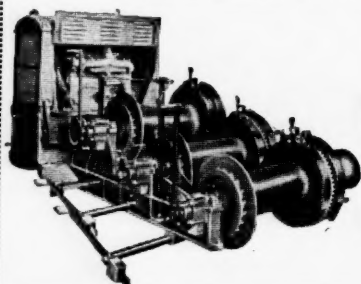
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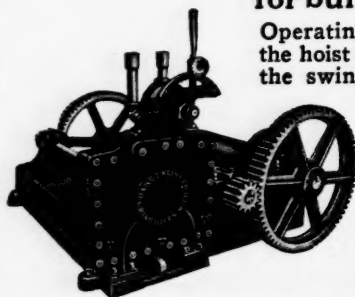
Hydraulic Dredges—Sand and Gravel Dredges  
Pumps for Sand, Gravel, Dredging  
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Operating independently of  
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The engine has no  
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starts instantly  
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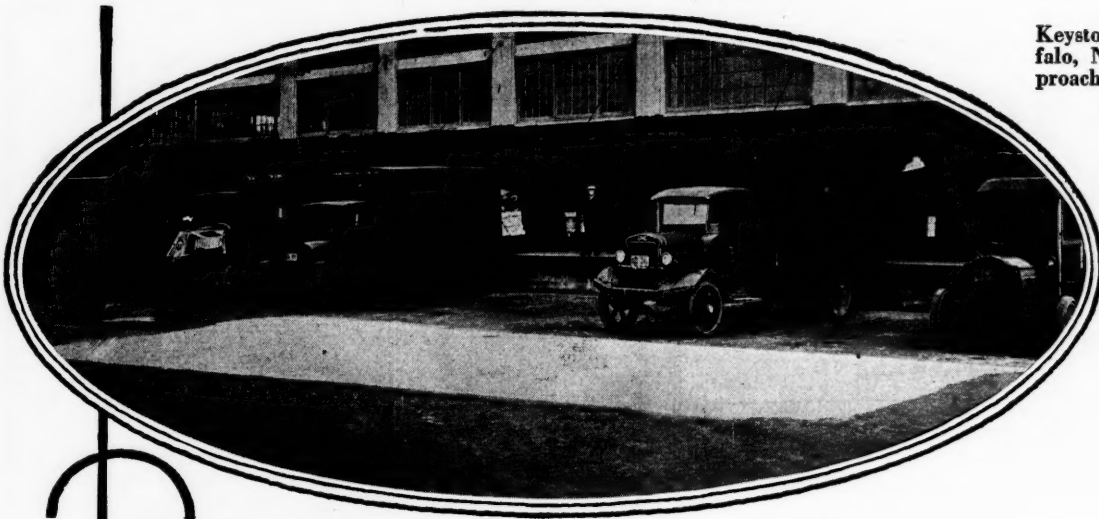
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Early use, regular equipment and the cost of materials make high early strength ALPHA CEMENT concrete a real economy.

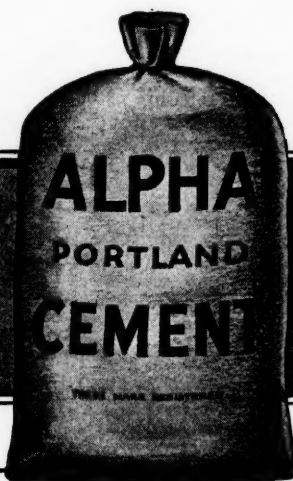
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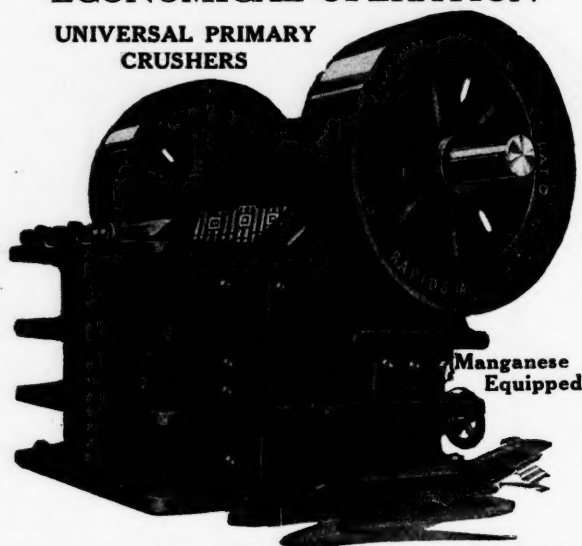
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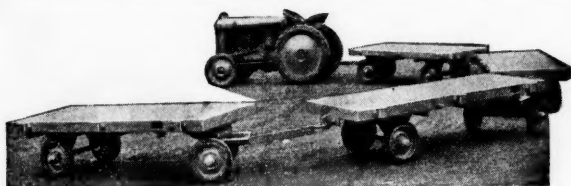
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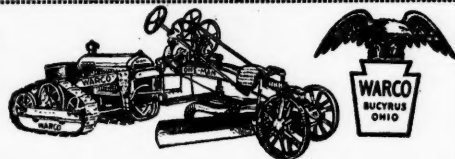
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*Inquiries as to rates, routes and the varied services of the Norfolk and Western Railway will have prompt attention by its Freight Traffic Department representatives throughout the nation.*



**NORFOLK<sup>a<sub>n</sub>d</sup> WESTERN RAILWAY**  
**ROANOKE , VIRGINIA .**



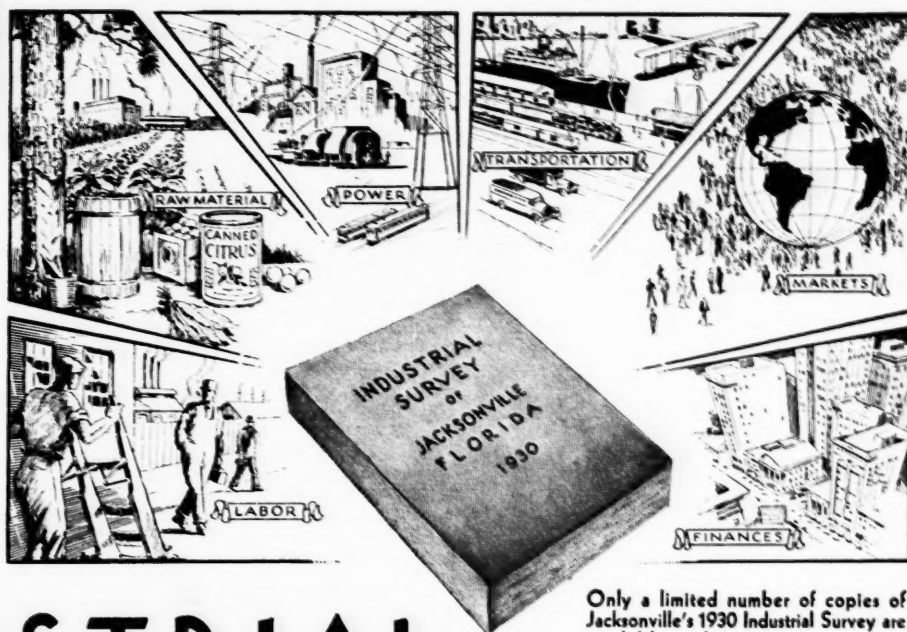
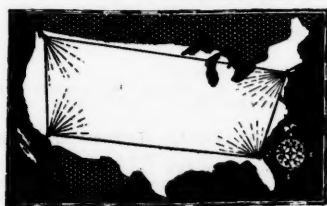
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# Classified Reference Index for Buyers

## ABRASIVE MATERIALS.

Carborundum Co., Niagara Falls, N. Y.

## ACCOUNTANTS (Cert. and Cost.)

Black & Co., Baltimore, Md.  
Ernst & Ernst, New York, N. Y.  
Hollowell, Gorham & Co., Greensboro, N.C.  
Le Baron, E. T., Jacksonville, Fla.

## AERIAL MAPS and SURVEYS.

Airmap Corp. of Amer., Brooklyn, N. Y.  
Lacey & Co., Jas. D., New York, N. Y.

## AIR COMPRESSORS (Stationary and Portable.)

De Laval Steam Turbine Co., Trenton, N.J.  
Equipment Corp. of America, Chicago, Ill.  
Gardner-Denver Co., Quincy, Ill.  
General Electric Co., Schenectady, N. Y.  
Ingersoll-Rand Co., New York, N. Y.  
Noro Engine Co., Lansing, Mich.  
Quincy Compressor Co., Quincy, Ill.  
Sullivan Machinery Co., Chicago, Ill.  
Westinghouse Traction Brake Co., Wilmerding, Pa.

## AIR HEATERS.

Babcock & Wilcox Co., New York.

## AIRPORTS.

Shaw Co., Russell B., St. Louis, Mo.

## ALUMINUM BRONZE POWDER.

Aluminum Co. of America, Pittsburgh.

## AMMONIA Valves and Fittings.

Vogt Mch. Co., Henry, Louisville, Ky.

## ANGLE IRON-WORKING MACHINERY.

Whitney Metal Tool Co., Rockford, Ill.

## APPRAISERS.

Ballingier Co., Philadelphia, Pa.  
Conard, William B., Burlington, N. J.  
Main, Inc., Chas. T., Boston, Mass.

## ARCHITECTS.

Ballingier Co., Philadelphia, Pa.  
Boney, Leslie N., Wilmington, N. C.  
Chase, Wm., J. J., Atlanta.  
Main, Inc., Chas. T., Boston, Mass.  
Milburn, Heister & Co., Wash., D. C.  
Moyer Co., Tilghman, Allentown, Pa.  
Preacher & Co., Inc., G. Lloyd, Atlanta.  
Strine & Co., J. E., Greenville, S. C.  
Wheeler, Walter H., Minneapolis, Minn.  
Widmer Engineering Co., St. Louis, Mo.

## —(Golf Course, Landscape.)

Draper, E. S., Charlotte, N. C.  
Spoon & Lewis, Greensboro, N. C.

## ARCHITECTS' SUPPLIES.

Weber Co., Inc., F., Philadelphia, Pa.

## ARCHITECTURAL IRON WORK.

Dietrich Brothers, Baltimore, Md.  
Virginia Bridge & Iron Co., Roanoke, Va.

## ASH Removal Systems (Gates, Hoppers, Quenchers, etc.)

Allen-Sherman-Hoff Co., Philadelphia, Pa.

## —Sluicing Systems.

Allen-Sherman-Hoff Co., Philadelphia, Pa.

## —Storage Tanks (Cast Iron.)

Allen-Sherman-Hoff Co., Philadelphia, Pa.

## ASPHALT.

Gulf Refining Co., Pittsburgh, Pa.

## —(Emulsified.)

Headley Emulsified Products Co., Philadelphia, Pa.

## —Filler.

American Limestone Co., Knoxville, Tenn.

## AUDITORS.

Ernst & Ernst, New York, N. Y.  
Hollowell, Gorham & Co., Greensboro, N.C.  
Le Baron, E. T., Jacksonville, Fla.

## BABBITT METAL.

Ryerson & Sons, Inc., Jos. T., St. Louis and New York.

## BACKFILLERS.

Harnischfeger Corp., Milwaukee, Wis.  
National Equipment Corp. (Insley, Parsons), Milwaukee, Wis.

## BALLAST (Railroad.)

American Limestone Co., Knoxville, Tenn.

## BANKERS and BROKERS.

Provident Saving Bank & Trust Co., Cincinnati, Ohio.

## BANKS and TRUST COMPANIES.

Baltimore Commercial Bank, Balto., Md.  
Baltimore Trust Co., Baltimore, Md.  
Bank of Alabama, The, Ensley, Ala.  
Bank of New York & Trust Co., N. Y.  
First and Merchants National Bank, Richmond, Va.  
Maryland Trust Co., Baltimore, Md.  
Mercantile Trust Co., Baltimore, Md.

## BARGES (Steel.)

American Bridge Co., New York, N. Y.  
McClintic-Marshall Co., Pittsburgh, Pa.

## BARS (Steel, Rounds, Flats, Hexagon and Squares.)

Carnegie Steel Co., Pittsburgh, Pa.  
Connors Steel Co., Birmingham, Ala.  
Gulf States Steel Co., Birmingham, Ala.  
Knoxville Iron Co., Knoxville, Tenn.  
Republic Steel Corp., Youngstown, Ohio.  
Ryerson & Son, Inc., Jos. T., St. Louis and New York.  
Sweet's Steel Corp., Williamsport, Pa.  
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.  
Timken Roller Bearing Co., Canton, O.  
Virginia Bridge & Iron Co., Roanoke, Va.  
Youngstown Sheet & Tube Co., Youngstown, Ohio.

## BATTERIES (Storage.)

Electric Storage Battery Co., Phila., Pa.

## BEAMS, CHANNELS, ANGLES.

Belmont Iron Works, Philadelphia, Pa.  
Carnegie Steel Co., Pittsburgh, Pa.  
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.  
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.  
Virginia Bridge & Iron Co., Roanoke, Va.

## BEARINGS (Anti-friction.)

Hyatt Roller Bearing Co., Newark, N. J.  
Timken Roller Bearing Co., Canton, Ohio.

## —(Line Shaft.)

Wood's Sons Co., T. B., Chambersburg, Pa.

## —(Roller.)

Hyatt Roller Bearing Co., Newark, N. J.  
Timken Roller Bearing Co., Canton, Ohio.

## BELT (Chain.)

Diamond Chain & Mfg. Co., Indianapolis.

## —(Leather, Canvas, Rubber.)

Charlotte Leather Belting Co., Charlotte, N. C.

Republic Rubber Co., Youngstown, Ohio.

## —Dressing.

Dixon Crucible Co., Jos., Jersey City, N.J.

## BILLETS (Basic Open Hearth.)

Gulf States Steel Co., Birmingham, Ala.  
Republic Steel Corp., Youngstown, Ohio.  
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

## BINS (Steel Loading.)

Blaw-Knox Co., Pittsburgh, Pa.

Erie Steel Construction Co., Erie, Pa.

## BLASTING POWDER and Accessories.

Du Pont de Nemours & Co., E. I., Wilmington, Del.

Hercules Powder Co., Inc., Wilmington, Del.

## BLINDS (Venetian and Awning.)

Wilson Corp., The J. G., New York.

## BLOCKS (Friction)

Palmer Asbestos & Rubber Corp., Chicago.

## —(Tackle, for Wire and Manila Rope.)

Patterson Co., W. W., Pittsburgh.

## BOILERS (New.)

Babcock & Wilcox Co., The, New York  
Charleston Dry Dock & Machine Co., Charleston, S. C.  
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.

Cole Mfg. Co., R. D., Newnan, Ga.

Combustion Engr. Corp., New York, N. Y.

Hedges Walsh Weldner Co., Chattanooga, Tenn.

Lombard Iron Works & Supply Co., Augusta, Ga.

Schotfield's Sons Co., J. S., Macon, Ga.

Titusville Iron Works Co., Titusville, Pa.

Vogt Mch. Co., Henry, Louisville, Ky.

## —(Oil.)

Babcock & Wilcox Co., New York.

## —(Used.)

Delta Equipment Co., Philadelphia, Pa.  
O'Brien Machinery Co., Philadelphia, Pa.  
Randle Machinery Co., The, Cincinnati, O.  
Zellicker Supply Co., W. A., St. Louis.

## BOILER SETTINGS.

Babcock & Wilcox Co., New York.  
Harbison-Walker Refractories Co., Pittsburg

## —Tubes.

Babcock & Wilcox Co., New York.  
National Tube Co., Pittsburgh, Pa.  
Ryerson & Son, Inc., Jos. T., St. Louis and New York.

## —Tubes (Charcoal, Iron.)

Reading Iron Co., Reading, Pa.

## BOLTS, Rivets, Studs, Washers.

Bethlehem Steel Co., Bethlehem, Pa.  
Progressive Mfg. Co., Torrington, Conn.  
Republic Steel Corp., Youngstown, Ohio.  
Russell, Burdall & Ward Bolt & Nut Co., Port Chester, N. Y.  
Ryerson & Son, Inc., Jos. T., St. Louis and New York.  
Virginia Bridge & Iron Co., Roanoke, Va.

## —(Track.)

Sweet's Steel Co., Williamsport, Pa.

## BOND BUYERS.

Garraway & Co., S. G., Chicago.  
Hanchett Bond Co., Inc., The, Chicago.  
Law & Co., A. M., Spartanburg, S. C.  
Mercantile Trust Co., Baltimore, Md.  
Nureen & Co., John, Chicago, Ill.  
Provident Savings Bank and Trust Co., Cincinnati, Ohio.

## BORING (Core.)

Acker Drill Co., Scranton, Penna.  
Mott Core Drilling Co., Huntington, W. Va.

Pennsylvania Drilling Co., Pittsburgh, Pa.

Southern Drilling Co., Saltville, Va.

Sprague & Henwood, Inc., Scranton, Pa.

## BOXES (Paper.)

Old Dominion Box Co., Lynchburg, Va.

## BRAKE LINING

Palmer Asbestos & Rubber Corp., Chicago.

## BRASS GOODS.

Copper and Brass Research Assn., New York.

Mueller Co., Decatur, Ill.

## BRICK (Common Building.)

Friend & Co., Inc., Petersburg, Va.

## —(Fire.)

Dee Co., Wm. E., Oak Hill, Ohio.  
North Amer. Refractories Co., Cleveland, O.

Taylor Sons Co., Charles, Cincinnati.

## —(Vitrified, Paving.)

National Paving Brick Mfrs. Assn., Washington, D. C.

## —and Clayworking Machy.

Steel & Sons, J. C., Statesville, N. C.

## BRIDGE (Operating Machinery.)

Earle Gear & Machine Co., Phila., Pa.

## —Timber.

American Crosscutting Co., Louisville, Ky.

Industrial Lumber Co., Elizabeth, La.

Kirby Lumber Co., Houston, Texas.

## BRIDGES (Concrete.)

Atlantic Bridge Co., Greensboro, N. C.

## —(Creosoted Wood.)

Atlantic Bridge Co., Greensboro, N. C.

## —(Steel.)

American Bridge Co., New York, N. Y.

Atlantic Bridge Co., Greensboro, N. C.

Belmont Iron Works, Philadelphia, Pa.

Bristol Steel & Iron Works, Inc., Bristol, Va.

Champion Bridge Co., Wilmington, O.

Converse Bridge & Steel Co., Chattanooga, Tenn.

Ingalls Iron Works Co., Birmingham, Ala.

McClintic-Marshall Co., Pittsburgh, Pa.

Nashville Bridge Co., Nashville, Tenn.

Virginia Bridge & Iron Co., Roanoke, Va.

## BRONZE (Architectural.)

Heath Company, J. S., Waukegan, Ill.

Michaels Art Bronze Co., Covington, Ky.

## BUBBLERS.

Rundle-Spence Mfg. Co., Milwaukee, Wis.

## BUCKETS (Clam Shell.)

Blaw-Knox Co., Pittsburgh, Pa.

Erie Steel Construction Co., Erie, Pa.

Hayward Co., The, New York, N. Y.

Industrial Brownhoist Corp., Cleveland, O.

Owen Bucket Co., The, Cleveland, Ohio.

## —(Dredging, Excavating, Sewer, etc.)

Blaw-Knox Co., Pittsburgh, Pa.

Hayward Co., The, New York, N. Y.

Monaghan Mfg. Corp., Chicago, Ill.

Owen Bucket Co., The, Cleveland, Ohio.

Stuebner Iron Works, G. L., Long Island City, N. Y.

## —(Elevator.)

Hendrick Mfg. Co., Carbondale, Pa.

Webster & Weller Mfg. Co., Chicago.

## —(Orange Peel.)

Hayward Co., The, New York, N. Y.

## —(Ore Handling.)

Hayward Co., The, New York, N. Y.

Owen Bucket Co., The, Cleveland, Ohio.

Stuebner Iron Works, G. L., Long Island City, N. Y.

## BUILDERS and Contractors.

Barstow & Co., W. S., Reading, Pa.

Cowper Co., Inc., The John W., Richmond, Va.

Mayer Co., Tilghman, Allentown, Pa.

Stone & Webster, Inc., Boston, Mass.

Thompson & Bros., T. C., Charlotte, N. C.

White Engineering Corp., J. G., New York.

## BUILDINGS (Industrial.)

Belmont Iron Works, Philadelphia, Pa.

Blaw-Knox Co., Pittsburgh, Pa.

Braden Steel Corp., Tulsa, Okla.

Butler Mfg. Co., Kansas City, Mo.

Edwards Mfg. Co., Cincinnati, O.

International Derrick & Equipment Co., Houston, Texas.

McClintic-Marshall Co., Pittsburgh, Pa.

Nashville Bridge Co., Nashville, Tenn.

Trucon Steel Co., Youngstown, O.

Virginia Bridge & Iron Co., Roanoke, Va.

## —(Portable Sheet Metal.)

Braden Steel Corp., Tulsa, Okla.

Butler Mfg. Co., Kansas City, Mo.

International Derrick & Equipment Co., Houston, Texas.

## BULKHEADS.

Shore-Line Builders, Inc., Jacksonville, Fla.

Snare Corp., Frederick, New York, N. Y.

## BULLDOZERS.

Trackson Co., Milwaukee, Wis.

## BUSINESS METHODS.

Ernst & Ernst, New York, N. Y.

## CABLE (Elevator.)

Koebling's Sons Co., John A., Trenton, N. J.

## —(Stud Link.)

Woodhouse Chain Works, Trenton, N. J.

## —and Wire (Electric.)

American Steel & Wire Co., Balto., Md.

Okonite Co., New York, N. Y.

Koebling's Sons Co., John A., Trenton, N.J.

Western Electric Co., New York City

## CABLEWAYS (Overhead Suspension.)

Broderick & Bascom Rope Co., St. Louis

Lidgerwood, Mfg. Co., Elizabeth, N. J.

Sauerman Bros., Chicago, Ill.

## CALCIUM CHLORIDE.

Grasselli Chemical Co., Inc., Birmingham

## CAN and Box-Making Machinery (Tin.)

Bliss Co., E. W., Brooklyn, N. Y.

Robins & Co., A. K., Baltimore, Md.

## CANNING MACHINERY.

Robins & Co., A. K., Baltimore, Md.

## CAR (Pullers.)

Webster & Weller Mfg. Companies, Chicago, Ill.

## CARS (Dump, Industrial, Logging and Mine.)

Atlas Car & Mfg. Co., The, Cleveland, O.

Easton Car & Construction Co., Easton, Pa.

Koppel Ind. Car & Equip. Co., K

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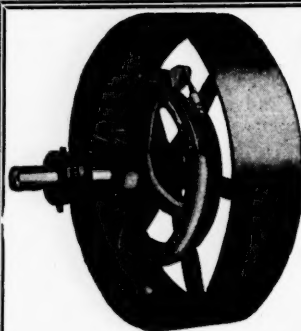
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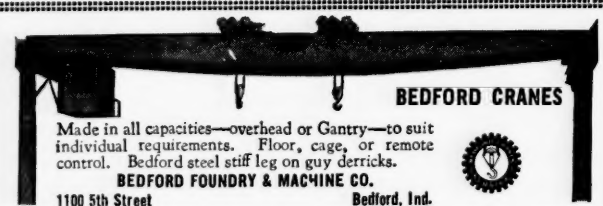
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### Steps (Safety.)

Irring Iron Works, Co., Long Island City, N. Y.

### CASTINGS (Alloy.)

Mountain State Steel Foundries, Parkersburg, W. Va.

### (Brass, Bronze and Aluminum.)

Richmond Foundry & Mfg. Co., Richmond, Va.

### (Chilled Iron.)

Fuller Lehigh Co., Fullerton, Penna.

### (Gray Iron.)

Fuller Lehigh Co., Fullerton, Penna.

Glamorgan Pipe & Fdry. Co., Lynchburg, Va.

Richmond Foundry & Mfg. Co., Richmond, Va.

Roanoke Iron & Bridge Works, Inc., Roanoke, Va.

Salem Fdry. & Mch. Wks., Salem, Va.

U.S. Pipe & Foundry Co., Burlington, N.J.

(Malleable Iron and Steel.)

Timken Roller Bearing Co., Canton, O.

(Semi-Steel.)

Salem Fdry. & Mch. Wks., Salem, Va.

(Steel.)

Bethlehem Steel Co., Bethlehem, Pa.

Crucible Steel Casting Co., Lansdowne, Delaware Co., Pa.

Deemer Steel Casting Co., New Castle, Del.

Lunkenshimer Co., Cincinnati, Ohio.

Mountain State Steel Foundries, Parkersburg, W. Va.

CEILING (Metal.)

Milcor Steel Co., Milwaukee, Wis.

CEMENT (High Temperature.)

Harbison Walker Refractories Co., Pittsburg, Pa.

North American Refractories Co., Cleveland, Ohio.

(Portland.)

Alpha Portland Cement Corp., Birmingham, Ala.

Lehigh Portland Cement Co., New York, N. Y.

Louisville Cement Co., Louisville, Ky.

Portland Cement Assn., Chicago, Ill.

"Guns."

Cement-Gun Co., Inc., Allentown, Pa.

Machinery.

Traylor Engr. & Mfg. Co., Allentown, Pa.

CHAIN BLOCKS (See Blocks, Chain.)

CHAINS (Dredge, Quarry, Steam Shovel.)

Knoxville Iron Co., Knoxville, Tenn.

Woodhouse Chain Works, Trenton, N. J.

(High Speed Roller.)

Diamond Chain & Mfg. Co., Indianapolis, Ind.

(Silent Drive.)

Diamond Chain & Mfg. Co., Indianapolis, Ind.

(Sprocket.)

Chain Belt Co., Milwaukee, Wis.

(Welded.)

Woodhouse Chain Works, Trenton, N. J.

CHAIRS (Opera and Theatre.)

Andrews Co., A. H., Chicago, Ill.

CHEMICALS.

Davison Chemical Co., Baltimore, Md.

Grasselli Chemical Co., Inc., Birmingham, Ala.

CHEMISTS, CHEMICAL ENGINEERS (Analytical.)

Barrow-Agee Laboratories, Memphis, Tenn.

Flood & Co., Walter H., Chicago, Ill.

Froehling & Robertson, Inc., Richmond, Va.

Hunt Co., Robert W., Chicago, Ill.

Meigs, Bassett & Slaughter, Phila., Pa.

Picard Laboratories, Birmingham, Ala.

Pittsburgh Testing Laboratories, Pittsburgh, Pa.

Southwestern Laboratories, Fort Worth, Tex.

Stillman & Van Sicken, New York, N. Y.

Wiley & Co., Inc., Baltimore, Md.

(Consulting, Paper Industry.)

Froehling & Robertson, Inc., Richmond, Va.

CHIMNEYS (Concrete.)

Rust Engineering Co., Birmingham, Ala.

(Radial Brick.)

Rust Engineering Co., Birmingham, Ala.

CHLORIDE ACCUMULATOR.

Electric Storage Battery Co., Phila., Pa.

CIRCUIT BREAKERS.

I. T. E. Circuit Breaker Co., Phila., Pa.

Westinghouse Electric & Mfg. Co., E. Pittsburgh, Pa.

CITY AND TOWN PLANNING

Draper, E. S., Charlotte, N. C.

CLOCKS (For all purposes.)

Kaiser Klock Co., L. E., Baltimore, Md.

### (Watchman's Portable.)

Davis-Paradis Watchman's Clock Corp., New York, N. Y.

Kaiser Klock Co., L. E., Baltimore, Md.

### CLOTH (Wire.)

Newark Wire Cloth Co., Newark, N. J.

### CLUTCHES (Friction.)

Caldwell Co., Inc., W. E., Louisville, Ky.

Wood's Sons Co., T. B., Chambersburg, Pa.

### COAL (Bituminous.)

Sloss-Sheffield Steel & Iron Co., Birmingham, Ala.

Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

### —and Ash-Handling Mch.

Allen-Sherman-Hoff Co., Phila., Pa.

Chain Belt Co., Milwaukee, Wis.

Hayward Co., The, New York, N. Y.

Industrial Brownhoist Corp., Cleveland, O.

Northwest Engineering Co., Chicago, Ill.

Webster & Weller Mfg. Cos., Chicago, Ill.

### —Bunkers (Cast Iron.)

Allen-Sherman-Hoff Co., Phila., Pa.

### —Tipples.

American Bridge Co., New York, N. Y.

Virginia Bridge & Iron Co., Roanoke, Va.

### COATINGS (Protective.)

Headley Emulsified Products Co., Philadelphia, Pa.

### COCKS (Service.)

Mercer Nordstrom Valve Co., San Francisco, Calif.

### COKE.

Sloss-Sheffield Steel & Iron Co., Birmingham, Ala.

Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

### COLUMNS (Cast Iron.)

U. S. Pipe & Fdry. Co., Burlington, N. J.

### COMPRESSORS (Gasoline Extr.)

Sullivan Machinery Co., Chicago, Ill.

### CONCRETE (Block Machinery.)

Blystone Mfg. Co., Cambridge Springs, Pa.

### —Construction (Reinforced.)

Cement-Gun Co., Inc., Allentown, Pa.

Cement Gun Construction Co., Chicago, Ill.

Rust Engineering Co., Birmingham, Ala.

### —Floor Slabs.

Federal-American Cement Tile Co., Chicago, Ill.

### —Information Only.

Portland Cement Assn., Chicago, Ill.

### —Mixers.

Blystone Mfg. Co., Cambridge Springs, Pa.

Chain Belt Co., Milwaukee, Wis.

Dunning & Boschert Press Co., Inc., Syracuse, N. Y.

Equipment Corp. of America, Chicago, Ill.

Jaeger Machine Co., Columbus, Ohio.

### —Pipe Machinery (See Pipe Machinery, Concrete.)

—Placing Equipment.

National Equipment Corp. (Insley Division), Milwaukee, Wis.

### —Road Curing.

McEverlast, Inc., Los Angeles, Cal.

### —Roofing Tile.

Federal-American Cement Tile Co., Chicago, Ill.

### CONDENSERS.

Ingersoll-Rand Co., New York, N. Y.

Manistee Iron Works Co., Manistee, Mich.

Westinghouse Electric & Mfg. Co., E. Pittsburgh, Pa.

### CONDUITS (Electric, Interior, Steel.)

Western Electric Co., New York, N. Y.

Youngstown Sheet & Tube Co., Youngstown, Ohio.

### CONTRACTORS (Bridge.)

Kansas City Bridge Co., Kansas City, Mo.

Snare Corp., Frederick, New York.

### —(Drainage and Dredging.)

Arundel Corp., The, Baltimore, Md.

Atlantic Gulf and Pacific Co., New York, N. Y.

### —(Electrical.)

Walker Electrical Co., Atlanta, Ga.

Warner Service Co., Knoxville, Tenn.

Webb Electric Co., Anderson, S. C.

### —(Foundations and Dams.)

Calligan & Co., A. H., Richmond, Va.

Snare Corp., Frederick, New York, N. Y.

### —(General.)

Angle-Blackford Co., Greensboro, N. C.

Blair, Algernon, Montgomery, Ala.

Burkes, Inc., J. V. & R. T., New Orleans, La.

Charleston Constructors, Inc., Charleston, S. C.

Cornell Young Co., Inc., Macon, Ga.

Cowper Co., Inc., John W., Richmond, Va.

Fiske-Carter Constr. Co., Greenville, S. C.

Grady Constr. Co., Lee A., Knoxville, Tenn.

Saville, Inc., Allen J., Richmond, Va.

Smallman Construction Co., Birmingham.  
Snare Corp., Frederick, New York, N. Y.  
Stane & Webster, Inc., Boston, Mass.  
Thompson & Bros., T. C., Charlotte, N. C.  
Tucker & Laxton, Charlotte, N. C.  
White Engineering Corp., J. G., New York.

—(Industrial Buildings.)

Angle-Blackford Co., Greensboro, N. C.  
Barstow & Co., W. S., Reading, Pa.  
Blair, Algernon, Montgomery, Ala.  
Cowper Co., Inc., John W., Richmond, Va.  
Fiske-Carter Constr. Co., Greenville, S. C.  
Smallman Construction Co., Birmingham.  
Snare Corp., Frederick, New York, N. Y.  
Stone & Webster, Inc., Boston, Mass.  
Thompson & Bros., T. C., Charlotte, N. C.  
Tucker & Laxton, Charlotte, N. C.  
White Engineering Corp., J. G., New York.

—Mill Village.

Hornbuckle Contracting Co., Atlanta, Ga.

—(Plastering.)

Jennings & Co., Floyd, Atlanta, Ga.

—(Power Piping.)

Poe Piping & Heating Co., Greenville, S. C.

—(Power Plants.)

Snare Corp., Frederick, New York, N. Y.

—(Railroad.)

Calligan & Co., A. H., Richmond, Va.  
Cornell-Young Co., Inc., Macon, Ga.

—(Reinforced Concrete.)

Blair, Algernon, Montgomery, Ala.  
Cement Gun Construction Co., Chicago.

Gunite Conc. & Constr. Co., Kansas City.

Tucker & Laxton, Charlotte, N. C.

—(Road and Street Paving.)

Fiske-Carter Constr. Co., Greenville, S. C.

Gridley Constr. Co., Lee A., Knoxville, Tenn.

Hornbuckle Contracting Co., Atlanta, Ga.

McCrory Co., J. B., Atlanta, Ga.

—(Rust Proofing.)

Dixie Electro Plating Co., Houston, Tex.

—(Sewerage and Waterworks.)

Gridley Constr. Co., Lee A., Knoxville, Tenn.

Hardaway Contracting Co., Columbus, Ga.

Hornbuckle Contracting Co., Atlanta, Ga.

McCrory Co., The J. B., Atlanta, Ga.

Snare Corp., Frederick, New York, N. Y.

Tucker & Laxton, Charlotte, N. C.

—(Sprinkler System.)

Poe Piping & Heating Co., Greenville, S. C.

—(Water-Works.)

Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.

—Machinery and Supplies.

(New.)

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Erie Steel Construction Co., Erie, Pa.

W-K-M Co., Inc., Houston, Texas.

—Machinery and Supplies.

(Used.)

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Gulon, Harry P., New York, N. Y.

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Phillips, Inc., Chester A., Chicago.

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Universal Crusher Co., Cedar Rapids, Ia.

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International Correspondence Schools, Scranton, Pa.

COST SERVICE.

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CRANES

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Northwest Engineering Co., Chicago, Ill.

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Thew Shovel Co., The, Lorain, Ohio.

Whiting Corp., Harvey, Ill.

—(Cantilever, Gantry.)

Bedford Foundry & Machine Co., Bedford, Ind.

Whiting Corp., Harvey, Ill.

—(Crawler.)

Harnischfeger Corp., Milwaukee, Wis.

Industrial Brownhoist Corp., Cleveland, O.

Northwest Engineering Co., Chicago, Ill.

Ohio Power Shovel Co., Lima, Ohio.

Thew Shovel Co., The, Lorain, Ohio.

—(Crawling Tractor.)

Northwest Engineering Co., Chicago, Ill.

Ohio Power Shovel Co., Lima, Ohio.

Thew Shovel Co., The, Lorain, Ohio.

—(Electric Traveling.)

Bedford Foundry & Machine Co., Bedford, Ind.

Erie Steel Construction Co., Erie, Pa.

Harnischfeger Corp., Milwaukee, Wis.

Milwaukee Elec. Crane & Hoist Corp., Milwaukee, Wis.

Whiting Corp., Harvey, Ill.

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Northwest Engineering Co., Chicago, Ill.

Ohio Power Shovel Co., Lima, Ohio.

Thew Shovel Co., The, Lorain, Ohio.

—(Gasoline.)

Harnischfeger Corp., Milwaukee, Wis.

Northwest Engineering Co., Chicago, Ill.

Ohio Power Shovel Co., Lima, Ohio.

Thew Shovel Co., The, Lorain, Ohio.

—(Jib.)

Whiting Corp., Harvey, Ill.

—(Locomotive.)

Bucyrus-Erie Co., Erie, Penna.

Northwest Engineering Co., Chicago, Ill.

Ohio Power Shovel Co., Lima, Ohio.

Thew Shovel Co., The, Lorain, Ohio.

—(Material Handling.)

Bay City Shovels, Inc., Bay City, Mich.

Industrial Brownhoist Corp., Cleveland, O.

Northwest Engineering Co., Chicago, Ill.

Ohio Power Shovel Co., Lima, Ohio.

Thew Shovel Co., The, Lorain, Ohio.

Universal Crane Co., Lorain, Ohio.

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Whiting Corp., Harvey, Ill.

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Carolina Wood Preserving Co., Charleston, S. C.

Delaware Wood Preserving Co., Phila.

Eppinger & Russell Co., New York, N. Y.

Gulf States Creos. Co., Hattiesburg, Miss.

Savannah Creosoting Co., Savannah, Ga.

Wales Wood-Preserving Co., Norfolk, Va.

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Amer. Creosoting Co., Inc., Louisville, Ky.

Ayer & Lord Tie Co., Inc., Chicago.

Carolina Wood Preserving Co., Charleston, S. C.

Eppinger & Russell Co., New York, N. Y.

Savannah Creosoting Co., Savannah, Ga.

—(Zinc Meta Arsenite Treated.)

Curtin-Howe Corp., New York, N. Y.

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Amer. Creosote Wks., Inc., New Orleans.

Amer. Creosoting Co., Inc., Louisville, Ky.

Ayer & Lord Tie Co., Inc., Chicago.

Carolina Wood Preserving Co., Charleston, S. C.

Eppinger & Russell Co., New York, N. Y.

Savannah Creosoting Co., Savannah, Ga.

—(Zinc Meta Arsenite Treated.)

Curtin-Howe Corp., New York, N. Y.

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—(Rock.)

Universal Crusher Co., Cedar Rapids, Ia.

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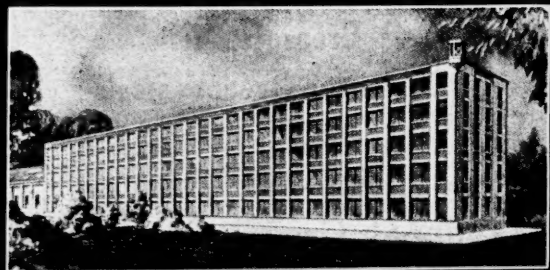
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Sagen Derrick Co., Chicago, Ill.  
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Galer Equipment Corp., New York, N. Y.

**DESKS (School.)**  
Andrews Co., A. H., Chicago, Ill.

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Harnischfeger Corp., Milwaukee, Wis.  
Hayward Co., The, New York, N. Y.  
Industrial Brownhoist Corp., Cleveland, O.  
Northwest Engineering Co., Chicago, Ill.  
Ohio Power Shovel Co., Lima, Ohio.  
Owen Bucket Co., The, Cleveland, O.

**DOORS (Bronze.)**  
Michaels Art Bronze Co., Covington, Ky.

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Merchan & Evans Co., Philadelphia, Pa.  
Richards-Wilcox Mfg. Co., Aurora, Ill.  
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Wilson Corp., The J. G., New York.  
**(Kalamain.)**  
Moeschl-Edwards Corr. Co., Cincinnati.  
**(Rolling, Steel and Wood.)**  
Kinnear Mfg. Co., The, Columbus, Ohio.  
Moeschl-Edwards Corr. Co., Cincinnati.  
Wilson Corp., The J. G., New York.  
**(Steel.)**  
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**(Tubular Steel.)**  
Bayley Co., Wm., Springfield, O.

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Harnischfeger Corp., Milwaukee, Wis.  
Monaghan Mfg. Corp., Chicago, Ill.  
National Equipment Corp. (Kochring, Insley) Milwaukee, Wis.  
Northwest Engineering Co., Chicago, Ill.  
Ohio Power Shovel Co., Lima, Ohio.  
Sauerman Bros., Chicago, Ill.  
Thew Shovel Co., The, Lorain, Ohio.  
Universal Power Shovel Co., Milwaukee, Wis.

**(Walking.)**  
Monaghan Mfg. Corp., Chicago, Ill.

**DREDGES (Dipper, Elevator, Hydraulic.)**  
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Bucyrus-Erie Co., Erie, Pa.  
Ellicott Machine Corp., Baltimore, Md.  
Morris Machine Wks., Baldwinville, N.Y.

**DREDGING (River and Harbor Improvement.)**  
Arundel Corp., The, Baltimore, Md.  
Atlantic Gulf and Pacific Co., New York.  
**(Machinery.)**  
Ellicott Machine Corp., Baltimore, Md.  
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Acker Drill Co., Scranton, Penna.  
Mott Core Drilling Co., Huntington, W. Va.  
Pennsylvania Drilling Co., Pittsburgh, Pa.  
Southern Drilling Co., Saltville, Va.  
Sprague & Henwood, Inc., Scranton, Pa.

**DRILLS (Artesian Well.)**  
Virginia Machinery & Well Co., Inc., Richmond, Va.

**—Hand**  
Gardner-Denver Co., Quincy, Ill.  
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**—(Electric.)**  
Gardner-Denver Co., Quincy, Ill.  
Sullivan Mch. Co., Chicago.

**—(Pneumatic.)**  
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Ingersoll-Rand Co., New York, N. Y.  
Sullivan Machinery Co., Chicago, Ill.

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Bliss Co., E. W., Brooklyn, N. Y.

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Electric Service Co., Cincinnati, Ohio.  
General Electric Co., Schenectady, N. Y.  
Gregory Electric Co., Chicago.  
Nashville Industrial Corp., Old Hickory, Tenn.  
Nussbaum & Co., V. M., Ft. Wayne, Ind.  
O'Brien Machinery Co., The, Phila., Pa.  
Randle Machinery Co., The, Cincinnati, O.  
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Millner Co., St. Louis, Mo.

**—(Hand and Belt Power.)**  
American Elevator & Machine Co., Inc., Louisville, Ky.  
Millner Co., St. Louis, Mo.

**—(Hydraulic.)**  
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Main, Inc., Chas. T., Boston, Mass.  
Sanderson & Porter, New York, N. Y.  
Wadleigh & Bailey, Washington, D. C.  
White Engineering Corp., J. G., New York

Whitman, Requaardt & Smith, Balto., Md.  
Wiedeman and Singleton, Inc., Atlanta.

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Shaw Co., Russell B., St. Louis, Mo.

#### —(Bridge.)

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Billingsley, James W., New Orleans, La.  
Fay, Spofford & Thorndike, Boston, Mass.  
Freeland, Roberts & Co., Nashville, Tenn.  
Gardner & Howe, Memphis, Tenn.  
Greiner & Co., J. E., Baltimore, Md.  
Hardaway Contracting Co., Columbus, Ga.  
Hedrick, Inc., Ira G., Hot Springs, Nat'l Park, Ark.  
Howerton Engineering Co., Asheville, N. C.  
Steel & Leiby, Knoxville, Tenn.  
Turner, C. A., Minneapolis, Minn.  
Virginia Bridge & Iron Co., Roanoke, Va.  
Wheeler, Walter H., Minneapolis, Minn.  
Whitman, Requaardt & Smith, Balto., Md.

#### —(Chemical.)

Barrow-Agee Laboratories, Memphis, Tenn.  
Dow & Smith, New York, N. Y.  
Flood & Co., Walter H., Chicago, Ill.  
Picard Laboratories, Birmingham, Ala.  
Pittsburgh Testing Laboratories, Pittsburgh, Pa.  
Southern Products Corp., New Orleans.

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Gardner & Howe, Memphis, Tenn.  
Greiner & Co., J. E., Baltimore, Md.  
Harub Engr. Co., C. N., Nashville, Tenn.  
Hedrick, Inc., Ira G., Hot Springs, Nat'l Park, Ark.  
Hills Co., George B., Jacksonville, Fla.  
MacElwee & Crandall, Inc., Cambridge, Mass.  
Main, Inc., Chas. T., Boston, Mass.  
Spoon & Lewis, Greensboro, N. C.  
Spring, Charles Herbert, Greensboro, N. C.  
Steel & Leiby, Knoxville, Tenn.  
White Engineering Corp., J. G., New York.  
Whitman, Requaardt & Smith, Balto., Md.

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Barstow & Co., W. S., Reading, Pa.  
Charlton & Davis, Ft. Lauderdale, Fla.  
Converse & Co., J. B., Mobile, Ala.  
Cramer, Robert, Milwaukee, Wis.  
Engineering Service Corp., Houston, Tex.  
Harza Engineering Co., Chicago.  
Hedrick, Inc., Ira G., Hot Springs, Nat'l Park, Ark.  
Herty, Charles H., New York City.  
Lockwood Greene Engrs., Inc., New York.  
Main, Inc., Chas. T., Boston, Mass.  
Smith, Elroy G., Augusta, Ga.  
Stillman & Van Sicken, New York, N. Y.  
Wadleigh & Bailey, Washington, D. C.  
White Engineering Corp., J. G., New York.  
Whitman, Requaardt & Smith, Balto., Md.  
Wiedeman & Singleton, Inc., Atlanta, Ga.

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Gardner & Howe, Memphis, Tenn.  
Hardaway Contracting Co., Columbus, Ga.  
Harza Engineering Co., Chicago.  
Hedrick, Inc., Ira G., Hot Springs, Nat'l Park, Ark.  
Lee, William S., Charlotte, N. C.  
Main, Inc., Chas. T., Boston, Mass.  
Sirrline & Co., J. E., Greenville, S. C.  
Tucker & Laxton, Charlotte, N. C.  
Wheeler, Walter H., Minneapolis, Minn.  
White Engineering Corp., J. G., New York.

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Cramer, Robert, Milwaukee, Wis.  
Flood & Lochridge, Dallas, Texas.  
Ford, Bacon & Davis, Inc., New York.  
Fuller & McClintock, New York, N. Y.  
Hills Co., George B., Jacksonville, Fla.  
Huey, S. E., Monroe, La.

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Barstow & Co., W. S., Reading, Pa.  
Ernst & Ernst, New York, N. Y.  
Whitman, Requaardt & Smith, Balto., Md.

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Battley & Kipp, Inc., Chicago, Ill.  
Engineering Service Corp., Houston, Tex.  
Hoosier Engineering Co., Chicago, Ill.  
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Lockwood Greene Engrs., Inc., New York.  
Main, Inc., Chas. T., Boston, Mass.  
Mullergren, Arthur L., Kansas City, Mo.  
Sanderson & Porter, New York, N. Y.  
Stone & Webster, Inc., Boston, Mass.  
Tucker & Laxton, Charlotte, N. C.  
Webb Electric Co., Anderson, S. C.  
White Co., Gilbert C., Durham, N. C.  
Wiley & Wilson, Lynchburg, Va.

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Battley & Kipp, Inc., Chicago, Ill.  
Byllesby Engineering and Management Corp., Chicago, Ill.  
Cramer, Robert, Milwaukee, Wis.  
Ford, Bacon & Davis, Inc., New York.  
Lee, William S., Charlotte, N. C.  
Main, Inc., Chas. T., Boston, Mass.  
Mullergren, Arthur L., Kansas City, Mo.

Sanderson & Porter, New York, N. Y.  
Scotfield Engineering Co., Phila., Pa.  
Stone & Webster, Inc., Boston, Mass.  
Tucker & Laxton, Charlotte, N. C.  
White Engineering Corp., J. G., New York.  
White Co., Gilbert C., Durham, N. C.

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Flood & Lochridge, Dallas, Texas.  
Harza Engineering Co., Chicago.

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Lacey & Co., Jas. D., New York, N. Y.

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Huey, S. E., Monroe, La.

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Wadleigh & Bailey, Washington, D. C.  
Withers, B. S., Jackson, Miss.

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Engineering Service Corp., Houston, Tex.  
Fay, Spofford & Thorndike, Boston, Mass.

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Fuller & McClintock, New York, N. Y.  
Harza Engineering Co., Chicago.  
Main, Inc., Chas. T., Boston, Mass.  
Whitman, Requaardt & Smith, Balto., Md.

#### —(Hydro-electric.)

Alpaugh & Sons, Chas. W., Manassas, Va.  
Battley & Kipp, Inc., Chicago, Ill.  
Byllesby Engineering and Management Corp., Chicago, Ill.  
Harza Engineering Co., Chicago.  
Lee, William S., Charlotte, N. C.  
Main, Inc., Chas. T., Boston, Mass.  
Mees & Mees, Charlotte, N. C.  
Sanderson & Porter, New York, N. Y.  
Scotfield Engineering Co., Phila., Pa.  
Sirrline & Co., J. E., Greenville, S. C.  
Tucker & Laxton, Charlotte, N. C.  
White Engineering Corp., J. G., New York.  
Whitman, Requaardt & Smith, Balto., Md.

#### —(Ice and Refrigerating.)

Engineering Service Corp., Houston, Tex.

#### —(Industrial Plants.)

Ballinger Co., Philadelphia, Pa.  
Barstow & Co., W. S., Reading, Pa.  
Battley & Kipp, Inc., Chicago, Ill.  
Billingsley, James W., New Orleans, La.  
Charleston Constructors, Inc., Charleston, S. C.  
Consoer, Older & Quinlan, Inc., Chicago.  
Converse & Co., J. B., Mobile, Ala.  
Fay, Spofford & Thorndike, Boston, Mass.  
Gardner & Howe, Memphis, Tenn.  
Greiner & Co., J. E., Baltimore, Md.  
Herty, Charles H., New York City.  
Hills Co., George B., Jacksonville, Fla.  
Lockwood Greene Engrs., Inc., New York.  
MacElwee & Crandall, Inc., Cambridge, Mass.

#### —(Industrial Survey.)

Main, Inc., Chas. T., Boston, Mass.  
Mees & Mees, Charlotte, N. C.  
Morgan Constr. Co., Worcester, Mass.  
Mullergren, Arthur L., Kansas City, Mo.  
Preacher & Co., Inc., G. Lloyd, Atlanta.  
Sanderson & Porter, New York, N. Y.  
Scotfield Engineering Co., Phila., Pa.  
Sirrline & Co., J. E., Greenville, S. C.  
Smith, Elroy G., Augusta, Ga.  
Stone & Webster, Inc., Boston, Mass.  
Turner, C. A. P., Minneapolis, Minn.  
Widmer Engineering Co., St. Louis, Mo.

#### —(Industrial Survey.)

Converse & Co., J. B., Mobile, Ala.  
Herty, Charles H., New York City.  
Lockwood Greene Engrs., Inc., New York.  
Wadleigh & Bailey, Washington, D. C.

#### —(Inspection and Tests.)

Barrow-Agee Laboratories, Memphis, Tenn.  
Conard, William R., Burlington, N. J.  
Cramer, Robert, Milwaukee, Wis.  
Dow & Smith, New York, N. Y.  
Flood & Co., Walter H., Chicago, Ill.  
Froehling & Robertson, Inc., Richmond, Va.  
Hunt Co., Robert W., Chicago, Ill.  
Picard Laboratories, Birmingham, Ala.  
Pittsburgh Testing Laboratories, Pittsburgh, Pa.  
Southwestern Laboratories, Ft. Worth, Tex.

#### —(Landscapes.)

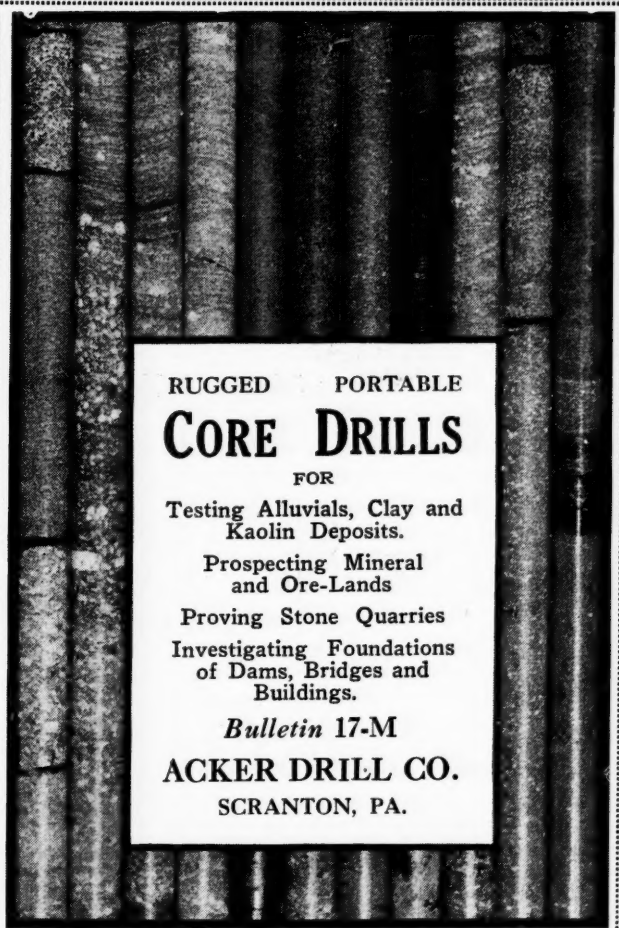
Draper, E. S., Charlotte, N. C.

#### —(Lighting.)


Battley & Kipp, Inc., Chicago, Ill.  
Byllesby Engineering and Management Corp., Chicago, Ill.  
Ford, Bacon & Davis, Inc., New York.  
General Electric Vapor Lamp Co., Hoboken, N. J.  
Wiley & Wilson, Lynchburg, Va.

#### —(Mechanical.)

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Charlton & Davis, Ft. Lauderdale, Fla.  
Engineering Service Corp., Houston, Tex.  
Lee, William S., Charlotte, N. C.  
Lockwood Greene Engrs., Inc., New York.  
Main, Inc., Chas. T., Boston, Mass.  
Mees & Mees, Charlotte, N. C.  
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Main, Inc., Chas. T., Boston, Mass.  
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Scotfield Engineering Co., Phila., Pa.  
Stone & Webster, Inc., Boston, Mass.  
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Greiner & Co., J. E., Baltimore, Md.  
Lockwood Greene Engrs., Inc., New York.  
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Whitman, Requaardt & Smith, Balto., Md.  
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Fuller & McClintock, New York, N. Y.  
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Hills Co., George B., Jacksonville, Fla.  
Howerton Engineering Co., Asheville, N. C.  
Knowles, Inc., Morris, Pittsburgh, Pa.  
Mees & Mees, Charlotte, N. C.  
Sanderson & Porter, New York, N. Y.  
Spoon & Lewis, Greensboro, N. C.  
Tucker & Laxton, Charlotte, N. C.  
White Co., Gilbert C., Durham, N. C.  
White Engineering Corp., J. G., New York.  
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Wiedeman & Singleton, Inc., Atlanta, Ga.

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Park, Ark.  
Hills Company, Geo. B., Jacksonville, Fla.  
Huey, S. E., Monroe, La.  
Lockwood Greene Engrs., Inc., New York.  
Turner, C. A. P., Minneapolis, Minn.  
Virginia Bridge & Iron Co., Roanoke, Va.  
Whitman, Requaardt & Smith, Balto., Md.

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Industrial Brownhoist Corp., Cleveland.  
Monaghan Mfg. Corp., Chicago, Ill.  
National Equipment Corp. (Koching,  
Insley, Parsons), Milwaukee, Wis.  
Northwest Engineering Co., Chicago, Ill.  
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Universal Power Shovel Co., Milwaukee,  
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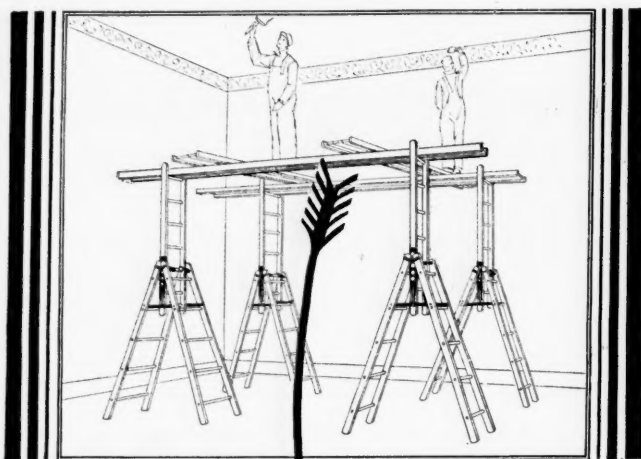
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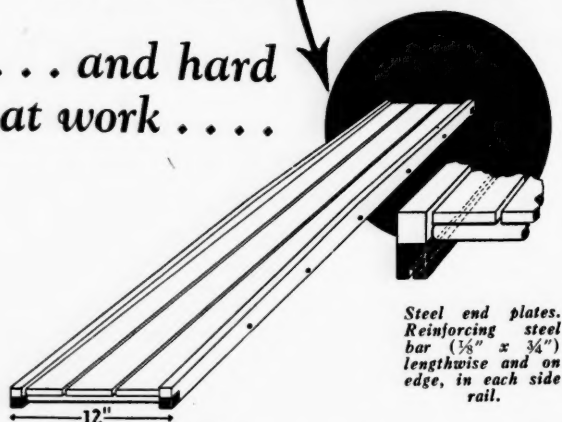
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**—(Line Shaft.)**  
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Wood's Sons Co., T. B., Chambersburg, Pa.

**HARBOR IMPROVEMENTS.**  
Arundel Corp., Baltimore, Md.  
Atlantic, Gulf & Pacific Co., New York.

**HARDWARE (Door.)**  
Richards-Wilcox Mfg. Co., Aurora, Ill.

**HEATERS (Asphalt.)**  
Honhorst Co., Jos., Cincinnati, O.

**HEATING Apparatus (Engineers and Contractors.)**  
Grinnell Co., Inc., Providence, R. I.  
Poe Piping & Heating Co., Greenville, S.C.

**HOISTING MACHINERY.**  
Clyde Iron Works Sales Co., Duluth, Minn.  
Lidgerwood Mfg. Co., Elizabeth, N. J.

**HOISTS (Air Portable.)**  
Ingersoll-Rand Co., New York, N. Y.  
Sullivan Machinery Co., Chicago, Ill.

**—(Electric.)**  
Clyde Iron Works Sales Co., Duluth, Minn.  
Harnischfeger Corp., Milwaukee, Wis.  
Milwaukee Elec. Crane & Hoist Corp., Milwaukee, Wis.  
Mundy Hoisting Engine Co., J. S., Newark, N. J.  
Novo Engine Co., Lansing, Mich.  
Street Bros. Mch. Wks., Chattanooga, Tenn.

**—(Gasoline.)**  
Clyde Iron Works Sales Co., Duluth, Minn.  
Dake Engine Co., Grand Haven, Mich.  
Equipment Corp. of America, Chicago, Ill.  
Mundy Hoisting Engine Co., J. S., Newark, N. J.  
National Equipment Corp. (C. H. & E. Division), Milwaukee, Wis.  
Novo Engine Co., Lansing, Mich.  
Street Bros. Mch. Wks., Chattanooga, Tenn.

**—(Steam.)**  
Clyde Iron Works Sales Co., Duluth, Minn.  
Dake Engine Co., Grand Haven, Mich.  
Mundy Hoisting Engine Co., J. S., Newark, N. J.  
Street Bros. Mch. Wks., Chattanooga, Tenn.

**HOOPS, Bands, etc. (Galvanized.)**  
Connors Steel Co., Birmingham, Ala.

**HOPPERS (Aggregate, Measuring and Weighing.)**  
Blaw-Knox Co., Pittsburgh, Pa.  
Erie Steel Construction Co., Erie, Pa.

**HOSE (Rubber.)**  
Republic Rubber Co., Youngstown, Ohio.

**HOTELS.**  
Southern Hotel, The, Baltimore, Md.

**HOUSE MOVING.**  
Eichleay, Jr., Co., John, Pittsburgh.

**HUMIDIFYING AND DRYING EQUIPMENT.**  
Grinnell Co., Inc., Providence, R. I.

**HYDRAULIC PRESSES (Car Wheels.)**  
Tomlin-Larris Machine Co., Cordele, Ga.

**HYDRANTS (Fire.)**  
Ludlow Valve Mfg. Co., The, Troy, N. Y.  
Myers & Bro. Co., The, F. E., Ashland, O.  
Vogt Brothers Mfg. Co., Louisville, Ky.  
Wood & Co., R. D., Philadelphia, Pa.

**HYDRO-ELECTRIC POWER COMPANIES (Offering Industrial and Commercial Opportunities.)**  
Alabama Power Co., Birmingham, Ala.  
Central Power & Light Co., San Antonio.  
Georgia Power Co., Atlanta, Ga.  
Texas Power & Light Co., Dallas, Texas.

**ICE and Refrigerating Machinery and Supplies.**  
Ingersoll-Rand Co., New York, N. Y.  
Vogt Mach. Co., Henry, Louisville, Ky.

**INCINERATORS.**  
Duplex Hanger Co., Cleveland, Ohio.

**INCORPORATORS.**  
Delaware Registration Trust Co., Wilmington, Del.

**INJECTORS.**  
Jenkins Bros., New York, N. Y.  
Randle Machinery Co., The, Cincinnati, O.

**INSULATING (Board)**  
Armstrong Cork & Insulation Co., Lancaster, Pa.

**—Materials.**  
General Electric Co., Schenectady, N. Y.  
Okonite Co., New York, N. Y.

**INVESTMENT SECURITIES.**  
Electric Bond & Share Co., New York.  
Gay & Co., W. O., New York City.  
Hanchett Bond Co., Inc., The, Chicago, Ill.  
Mercantile Trust Co., Baltimore, Md.  
Nuveen & Co., John, Chicago.  
Provident Savings Bank & Trust Co., Cincinnati, Ohio.

**IRON.**  
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

**—(Ingot, For Culverts, etc.)**  
American Rolling Mill Co., Middletown, O.

**JANITOR SUPPLIES.**  
Clark, Lloyd T., Southern Pines, N. C.

**JOINTS (Pipe.)**  
Leadite Co., The, Philadelphia, Pa.

**JOIST HANGERS.**  
Duplex Hanger Co., Cleveland, Ohio.

**KETTLES (Pavers and Roofers.)**  
Honhorst Co., Jos., Cincinnati, O.

**LADDERS (Rolling.)**  
Myers & Bro. Co., The, F. E., Ashland, O.

**—(Wooden.)**  
Dayton Safety Ladder Co., Cincinnati, O.  
Patent Scaffolding Co., Chicago, Ill.

**LAMPS (Incandescent.)**  
General Electric Vapor Lamp Co., Hoboken, N. J.  
Western Electric Co., New York City.

**LATH (Metal.)**  
Ingalls Iron Works Co., Birmingham, Ala.

**LATHES.**  
Sebastian Lath Co., Cincinnati, Ohio.

**LIGHTING (Factory and Mill.)**  
General Electric Vapor Lamp Co., Hoboken, N. J.

**—Fixtures (Electric.)**  
Western Electric Co., New York City.

**LININGS (Flue, Fire Clay.)**

Lee Clay Products Co., Clearfield, Ky.  
North Amer. Refractories Co., Cleveland.  
Owensboro Sewer Pipe Co., Owensboro, Ky.  
—(Tube Mill.)  
Fuller Lehigh Co., Fullerton, Pa.

**LINOLEUM (Battleship, Embossed Inlaid, Inlaid, Jaspé.)**

Congoleum-Nairn, Inc., Kearny, N. J.

**LITHOGRAPHERS and ENGRAVERS.**

Smith & Son Co., Oscar T., Baltimore, Md.  
Young & Selden Co., Baltimore, Md.

**LOADING and UNLOADING MACHINERY (Portable.)**

Northwest Engineering Co., Chicago, Ill.

**LOCOMOTIVES (Compressed Air.)**

Porter Co., H. K., Pittsburgh, Pa.

—(Fireless Stored Steam.)  
Porter Co., H. K., Pittsburgh, Pa.

—(Gasoline.)

Porter Co., H. K., Pittsburgh, Pa.  
Whitcomb Co., Geo. D., Rochelle, Ill.

—(Industrial.)

Equipment Corp. of America, Chicago, Ill.

Porter Co., H. K., Pittsburgh, Pa.  
Southern Iron & Equipment Co., Atlanta.

Whitcomb Co., Geo. D., Rochelle, Ill.

—(Mining.)

Porter Co., H. K., Pittsburgh, Pa.

Whitcomb Co., Geo. D., Rochelle, Ill.

—(Railway.)

Porter Co., H. K., Pittsburgh, Pa.

Southern Iron & Equipment Co., Atlanta.

Whitcomb Co., Geo. D., Rochelle, Ill.

**LOGGING MACHINERY.**

Clyde Iron Works Sales Co., Duluth, Minn.

**LOOM PICK COUNTER.**

Veeder-Root, Inc., Hartford, Conn.

**LUBRICANTS.**

Dixon Crucible Co., Jos., Jersey City, N. J.

Gulf Refining Co., Pittsburgh, Pa.

**LUBRICATORS (Force Feed.)**

Lunkenheimer Co., The, Cincinnati, O.

**LUMBER (Ceiling, Flooring, Siding.)**

Industrial Lumber Co., Elizabeth, La.

Jackson Lumber Co., Lockhart, Ala.

Kirby Lumber Co., Houston, Texas.

Nashville Hardwood Flooring Co., Nashville, Tenn.

—(Creosoted.)

Amer. Creosote Wks., Inc., New Orleans.

Amer. Creosoting Co., Inc., Louisville, Ky.

Ayer & Lord Tie Co., Inc., Chicago.

Carolina Wood Preserving Co., Charleston, S. C.

Delaware Wood Preserving Co., Phila.

Eppinger & Russell Co., New York, N. Y.

Gulf States Creos. Co., Hattiesburg, Miss.

Savannah Creos. Co., Savannah, Ga.

—(Heavy Construction, Pitch, Pine, etc.)

Industrial Lumber Co., Elizabeth, La.

Kirby Lumber Co., Houston, Texas.

—(Zinc Meta Arsenite Treated.)

Curtin-Howe Corp., New York City.

**MACHINERY (Drilling, Core.)**

Acker Drill Co., Scranton, Penna.

—(Special.)

Bliss Co., E. W., Brooklyn, N. Y.

Bostron Mfg. Co., E. A., Atlanta, Ga.

Earle Gear & Machine Co., Phila., Pa.

Fernholm Machinery Co., St. Louis, Mo.

General Machine Works, York, Pa.

Whiting Corp., Harvey, Ill.

—and Supplies (New and Used.)

Electric Service Co., Cincinnati, Ohio.

Marine Metal & Supply Co., New York.

Nashville Ind. Corp., Old Hickory, Tenn.

O'Brien Machinery Co., The, Phila., Pa.

Randle Machinery Co., The, Cincinnati, O.

Ryerson & Son, Inc., Jos. T., St. Louis and New York.

Samlor Mch. & Equip. Co., Baltimore.

Seyfert's Sons, Inc., L. F., Phila., Pa.

Zelnicker Supply Co., W. A., St. Louis.

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Sebastian Lathe Co., Cincinnati, Ohio.

—(Used.)

Delta Equipment Co., Philadelphia, Pa.

O'Brien Machinery Co., Philadelphia, Pa.

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Cutler Mail Chute Co., Rochester, N. Y.

**MARBLE (Producers and Manufacturers.)**

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**MATERIAL ELEVATORS.**

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**METAL-Cutting Machinery.**

Earle Gear & Machine Co., Phila., Pa.

**—Working Machinery.**

Bliss Co., E. W., Brooklyn, N. Y.

**MILL MACHINERY and SUPPLIES.**

Lombard Iron Works & Supply Co., Augusta, Ga.

**MINING MACHINERY.**

McLanahan-Stone Machine Co., Hollidaysburg, Pa.

**MIXERS.**

National Equipment Corp. (Koehring, T. L. Smith, Kwik-Mix), Milwaukee, Wis.

—(Asphalt.)

Erie Machine Shops, Erie, Pa.

—(Hot.)

Koehring Co., Milwaukee, Wis.

—(Mortar.)

Chain Belt Co., Milwaukee, Wis.

Jaeger Machine Co., Columbus, Ohio.

—(Plaster.)

Blystone Mfg. Co., Cambridge Springs, Pa.

Chain Belt Co., Milwaukee, Wis.

Dunning & Boschert Press Co., Syracuse, N. Y.

Jaeger Machine Co., Columbus, Ohio.

**MORTAR INGREDIENT.**

Louisville Cement Co., Louisville, Ky.

**MOTORS (Electric.)**

Allis-Chalmers Mfg. Co., Milwaukee, Wis.

Fairbanks, Morse & Co., Chicago, Ill.

General Electric Co., Schenectady, N. Y.

Howell Electric Motors Co., Howell, Mich.

Western Electric Co., New York City.

Westinghouse Elec. & Mfg. Co., E. Pittsburgh, Pa.

**MOTOR TRUCKS.**

International Harvester Co. of America, Inc., Chicago, Ill.

**NAILS (Cut.)**

Reading Iron Co., Reading, Pa.

—and Spikes.

American Steel & Wire Co., Balto., Md.

Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

Youngstown Sheet & Tube Co., Youngstown, Ohio.

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(Offering Industrial and Commercial Opportunities.)

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Gulf Refining Co., Pittsburgh, Pa.

—Cups.

Lunkenheimer Co., The, Cincinnati, O.

**ORE-WASHING MACHINERY.**

Georgia Iron Works, Augusta, Ga.

McLanahan Stone Machine Co., Hollidaysburg, Pa.

**ORNAMENTAL BRONZE WORK.**

Heath Co., J. S., Waukegan, Ill.

Michaels Art Bronze Co., Covington, Ky.

—Iron Work.

Michaels Art Bronze Co., Covington, Ky.

Roanoke Iron & Bridge Wks., Roanoke, Va.

Sneed Architectural Iron Works, Louisville, Ky.

Southern Engineering Co., Charlotte, N. C.

Stewart Iron Works Co., Cincinnati, O.

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Hinde & Dauch Paper Co., Sandusky, O.

**PACKING (Asbestos, Metallic, Rubber, Leather, etc.)**

Jenkins Bros., New York, N. Y.

Palmer Asbestos & Rubber Corp., Chicago.

Republic Rubber Co., Youngstown, Ohio.

**PAINT (Aluminum.)**

Aluminum Co. of America, Pittsburgh, Pa.

—(Metal Surfaces.)

Aluminum Co. of America, Pittsburgh, Pa.

Dixon Crucible Co., Jos., Jersey City, N. J.

—(Mill White, For Interior.)

Aluminum Co. of America, Pittsburgh, Pa.

Sonneborn Sons, Inc., L., New York.

—(Preservative.)

Cabot, Inc., Samuel, Boston, Mass.

Foster Co., Benjamin, Philadelphia, Pa.

**PANELBOARDS.**

Adam Electric Co., Frank, St. Louis.

**PAPER BOXES (Corrugated, Shipping.)**

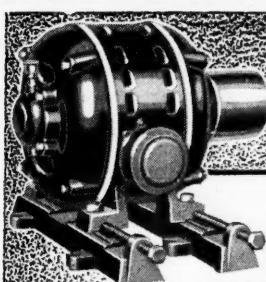
Hinde & Dauch Paper Co., Sandusky, O.

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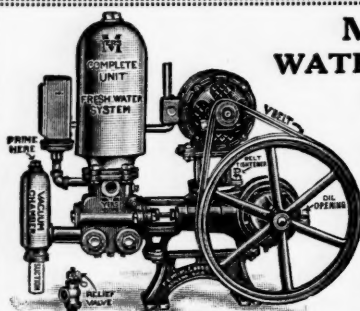


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Seymour & Bright, Washington, D. C.

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Washington, D. C.

### PAVING Blocks (Creosoted Wood.)

American Creosote Works, New Orleans.

### (Brick.)

National Paving Brick Mfrs. Assn., Washington, D. C.

### Mixers.

National Equipment Corp. (Koehring, T. L. Smith), Milwaukee, Wis.

### Plant (Asphalt.)

Simplicity System Co., Chattanooga, Tenn.

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Chicago, Bridge & Iron Works, Atlanta, Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.  
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### PERFORATED METAL.

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Erdle Perforating Co., Rochester, N. Y.  
Harrington & King Perf. Co., Chicago.  
Hendrick Mfg. Co., Carbondale, Pa.  
Manhattan Perforated Metal Co., Inc., Long Island City, N. Y.  
Mundt & Sons, Charles, Jersey City, N. J.

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McLanahan-Stone Machine Co., Hollidaysburg, Pa.

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Sloss-Sheffield Steel & Iron Co., Birmingham, Ala.  
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

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Amer. Creosoting Co., Inc., Louisville.  
Ayer & Lord Tie Co., Inc., Chicago.  
Carolina Wood Preserving Co., Charleston, S. C.  
Savannah Creosoting Co., Inc., Savannah.  
Wales Wood-Preserving Co., Norfolk, Va.

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Carnegie Steel Co., Pittsburgh, Pa.

Zelicker Supply Co., W. A., St. Louis.

### (Yellow Pine.)

Jackson Lumber Co., Lockhart, Ala.

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Goldens' Fdry. & Mch. Co., Columbus, Ga.

### PIPE.

Albert & Davidson Pipe Corp., Brooklyn, N. Y.

Albert Pipe Sup. Co., Inc., Brooklyn, N. Y.

Arco Culvert Mfrs. Assn., Middletown, O.

Birmingham Boiler & Engr. Co., Birmingham, Ala.

Central Pipe & Supply Co., Charleston, W. Va.

Greenpoint Iron & Pipe Co., Inc., Brooklyn, N. Y.

Hudson Pipe & Supply Co., Bayonne, N. J.

Maryland Pipe & Steel Corp., Baltimore, Md.

National Tube Co., Pittsburgh, Pa.

Pittsburgh Piping & Equip. Co., Pittsburgh, Pa.

Power Piping Co., Pittsburgh, Pa.

—(Cast Iron.)

Amer. Cast Iron Pipe Co., Birmingham.

Cast Iron Pipe Research Assn., Chicago.

Central Foundry Co., The, New York, N. Y.

Glamorgan Pipe & Fdry. Co., Lynchburg, Va.

U. S. Pipe & Foundry Co., Burlington, N. J.

—(Dredge.)

Abendroth & Root Mfg. Co., New York

—(Hammer-Welded.)

National Tube Co., Pittsburgh, Pa.

—(Iron and Steel.)

Ryerson & Son, Inc., Jos. T., St. Louis and New York.

—(Riveted.)

Abendroth & Root Mfg. Co., New York.

—(Second-Hand.)

Albert & Davidson Pipe Corp., Brooklyn, N. Y.

Albert Pipe Sup. Co., Inc., Brooklyn, N. Y.

Central Pipe & Sup. Co., Charleston, W. Va.

Greenpoint Iron & Pipe Co., Inc., Brooklyn, N. Y.

Hudson Pipe & Supply Co., Bayonne, N. J.

Marine Metal & Supply Co., New York.

Maryland Pipe & Steel Corp., Baltimore, Md.

### —(Spiral Riveted.)

Abendroth & Root Mfg. Co., New York.

Taylor Forge & Pipe Wks., Chicago, Ill.

### —(Steel.)

Bethlehem Steel Co., Bethlehem, Pa.

National Tube Co., Pittsburgh, Pa.

Pittsburgh Piping & Equip. Co., Pittsburgh, Pa.

Power Piping Co., Pittsburgh, Pa.

Republic Steel Corp., Youngstown, Ohio.

Youngstown Sheet & Tube Co., Youngstown, Ohio.

### —(Welded.)

Welded Products Co. of La., Inc., New Orleans, La.

### —(Wrought Iron.)

Reading Iron Co., Reading, Pa.

### —Benders and Headers.

Grinnell Co., Inc., Providence, R. I.

### —Bending Machines.

American Pipe Bending Machine Co., Boston, Mass.

### —Coatings.

Foster Co., Benjamin, Philadelphia, Pa.

### —Fittings.

Amer. Cast Iron Pipe Co., Birmingham.

Georgia Iron Works, Augusta, Ga.

Grinnell Co., Inc., Providence, R. I.

—Lines (Water, Gas & Oil—Riveted or Welded.)

Biggs Boiler Works Co., Akron, Ohio.

—Unions and Joints.

Dart Mfg. Co., E. M., Providence, R. I.

—Systems (Industrial.)

Grinnell Co., Inc., Providence, R. I.

Pittsburgh Piping & Equip. Co., Pittsburgh, Pa.

Power Piping Co., Pittsburgh, Pa.

—PLATES (Steel.)

Bethlehem Steel Co., Bethlehem, Pa.

Carnegie Steel Co., Pittsburgh, Pa.

Central Iron & Steel Co., Harrisburg, Pa.

Chattanooga Boiler & Tank Co., Chattanooga, Tenn.

Granite City Steel Co., Granite City, Ill.

Gulf States Steel Co., Birmingham, Ala.

Ryerson & Son, Inc., Jos. T., St. Louis and New York.

Tennessee Coal, Iron & Railroad Co., Birmingham.

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—POLES (Creosoted.)

Amer. Creosote Wks., Inc., New Orleans.

Amer. Creosoting Co., Inc., Louisville.

Ayer & Lord Tie Co., Inc., Chicago.

Brown Wood Preserving Co., Louisville, Ky.

Carolina Wood Preserving Co., Charleston, S. C.

Savannah Creosoting Co., Savannah, Ga.

—(Tubular, Steel.)

National Tube Co., Pittsburgh, Pa.

—(Yellow Pine.)

Jackson Lumber Co., Lockhart, Ala.

—(Zinc Meta Arsenite Treated.)

Curtin-Howe Corp., New York City.

—POLISHING MACHINERY.

(Wheels, Blocks.)

Carborundum Co., Niagara Falls, N. Y.

—PORTABLE HOUSES (Metal.)

Braden Steel Corp., Tulsa, Okla.

—POST CAPS.

Duplex Hanger Co., Cleveland, Ohio.

—POSTS, (Cast Iron, Railway and Highway.)

U. S. Pipe & Foundry Co., Burlington, N. J.

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Diamond Chain & Mfg. Co., Indianapolis.

Goldens' Fdy. & Mch. Co., Columbus, Ga.

O'Brien Machinery Co., Phila., Pa.

Schofield's Sons Co., J. S., Macon, Ga.

Wood's Sons Co., T. B., Chambersburg, Pa.

—(Pumps.)

Luitwieler Pumping Engine Co., Rochester, N. Y.

—PREHEATERS (Air.)

Combustion Engr. Corp., New York City.

—PRESSES, (Baling, Cottonseed Oil, Hydraulic and Power.)

Dunning & Boschert Press Co., Inc., Syracuse, N. Y.

Ripley Foundry & Machine Co., Ripley, O.

Tomlin-Harris Machine Co., Cordale, Ga.

—(Metal Stamping.)

Bliss Co., E. W., Brooklyn, N. Y.

—PRINTERS (Book, Catalog, Job.)

Smith & Son Co., Oscar T., Baltimore, Md.

Young & Selden Co., Baltimore, Md.

**PRODUCER (Gas Machines.)**  
Gas-O-Flame Store Wks., Port Deposit, Md.  
Morgan Construction Co., Worcester, Mass.  
Wood & Co., E. D., Phila., Pa.

**PULLEYS (Friction Clutch.)**  
Caldwell Co., Inc., W. E., Louisville, Ky.  
Wood's Sons Co., T. B., Chambersburg, Pa.

**—(Motor and Machine.)**  
American Pulley Co., Philadelphia, Pa.

**—(Steel Split.)**  
American Pulley Co., Philadelphia, Pa.

**—Shafting and Hangers.**  
American Pulley Co., Philadelphia, Pa.  
Goldens' Fdy. & Mch. Co., Columbus, Ga.  
Wood's Sons Co., T. B., Chambersburg, Pa.

**PULVERIZED COAL EQUIPMENT.**

Combustion Engr. Corp., New York, N. Y.  
Fuller Lehigh Co., Fullerton, Pa.  
Whiting Corp., Harvey, Ill.

**PULVERIZERS (See Crushing and Pulverizing Machinery.)**

#### **PUMPING MACHINERY.**

Cameron, A. S., Steam Pump Works (Ingersoll-Rand Co.), New York City.  
Chain Belt Co., Milwaukee, Wis.  
Cook, Inc., A. D., Lawrenceburg, Ind.  
Fairbanks, Morse & Co., Chicago, Ill.  
Ingersoll-Rand Co. (A. S. Cameron Steam Pump Works), New York, N. Y.  
Luitwieler Pumping Engine Co., Rochester, N. Y.  
Myers & Bro. Co., The F. E., Ashland, O.  
National Equipment Corp., (C. H. & E. Division), Milwaukee, Wis.  
Platt Iron Works, Dayton, Ohio.  
Viking Pump Co., Cedar Falls, Iowa.  
Virginia Mch. & Well Co., Richmond, Va.

#### **PUMPS (Air.)**

Manistee Iron Works Co., Manistee, Mich.

#### **—(Air Lift.)**

Ingersoll-Rand Co., New York, N. Y.  
Sullivan Machinery Co., Chicago, Ill.

#### **—(Boiler Feed.)**

Cameron, A. S., Steam Pump Works (Ingersoll-Rand Co.), New York City.  
DeLaval Steam Turbine Co., Trenton, N. J.  
Erie Pump & Engine Wks., Medina, N. Y.  
Ingersoll-Rand Co. (A. S. Cameron Steam Pump Works), New York, N. Y.  
Manistee Iron Works Co., Manistee, Mich.  
Myers & Bro. Co., The F. E., Ashland, O.

#### **—(Centrifugal.)**

Allis-Chalmers Mfg. Co., Milwaukee, Wis.  
Cameron, A. S., Steam Pump Works (Ingersoll-Rand Co.), New York City.  
DeLaval Steam Turbine Co., Trenton, N. J.  
Erie Pump & Engine Wks., Medina, N. Y.  
Fairbanks, Morse & Co., Chicago, Ill.  
Ingersoll-Rand Co. (A. S. Cameron Steam Pump Works), New York, N. Y.  
Jaeger Machine Co., Columbus, Ohio.  
Layne & Bowler, Inc., Memphis, Tenn.  
Manistee Iron Works Co., Manistee, Mich.  
Morris Machine Wks., Baldwinville, N. Y.  
Novo Engine Co., Lansing, Mich.

#### **—(Contractors.)**

Erie Pump & Engine Wks., Medina, N. Y.  
Novo Engine Co., Lansing, Mich.

#### **—(Deep Well.)**

Cook, Inc., A. D., Lawrenceburg, Ind.  
Layne & Bowler, Inc., Memphis, Tenn.  
Luitwieler Pumping Engine Co., Rochester, N. Y.  
Novo Engine Co., Lansing, Mich.

#### **—(Diaphragm.)**

Novo Engine Co., Lansing, Mich.

#### **—(Hydraulic.)**

Dunning & Boschert Press Co., Inc., Syracuse, N. Y.

#### **—(Power.)**

Platt Iron Works, Dayton, Ohio.  
Sterling Engine Co., Buffalo, N. Y.

#### **—(Pulverized Coal.)**

Fuller Lehigh Co., Fullerton, Pa.

#### **—(Rotary.)**

Viking Pump Co., Cedar Falls, Iowa.

#### **—(Sand and Dredging.)**

Ellicott Machine Corp., Baltimore, Md.  
Erie Pump & Engine Wks., Medina, N. Y.  
Georgia Iron Works, Augusta, Ga.

#### **—(Steam.)**

Cameron, A. S., Steam Pump Works (Ingersoll-Rand Co.), New York City.  
Fairbanks, Morse & Co., Chicago, Ill.  
Ingersoll-Rand Co. (A. S. Cameron Steam Works), New York, N. Y.  
Platt Iron Works, Dayton, Ohio.

#### **—(Vacuum.)**

Ingersoll-Rand Co., New York, N. Y.  
Sullivan Machinery Co., Chicago, Ill.

#### **—(Water Works.)**

Layne & Bowler, Inc., Memphis, Tenn.  
Manistee Iron Works Co., Manistee, Mich.

#### **PUNCHING AND SHEARING MACHINERY.**

Bliss Co., E. W., Brooklyn, N. Y.  
Whitney Metal Tool Co., Rockford, Ill.

#### **RACK RAKES.**

Newport News Shipbuilding & Drydock Co., Newport News, Va.

#### **RADIATOR ENCLOSURES.**

Manhattan Perforated Metal Co., Inc., Long Island City, N. Y.

#### **RADIATORS (Gas Steam.)**

Williams Radiator Co., Los Angeles, Calif.

#### **RAILINGS (Iron Pipe.)**

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#### **—and Grilles, Iron and Brass, (Banks and Offices.)**

Ludlow Saylor Wire Co., St. Louis, Mo.

#### **RAILROAD Equipment and Supplies (New.)**

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Whiting Corp., Harvey, Ill.

#### **—Equipment and Supplies (Used.)**

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Smith & Co., W. M., Birmingham, Ala.  
Southern Iron and Equip. Co., Atlanta.  
Zelnicker Supply Co., W. A., St. Louis.

#### **—(Frogs and Switches.)**

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Norfolk & Western Railway, Roanoke, Va.  
Tennessee Central Railway, Nashville.

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Levis & Co., Henry, Philadelphia, Pa.  
Perry, Buxton, Doane Co., Philadelphia.  
Robinson & Orr, Pittsburgh, Pa.  
Smith & Co., W. M., Birmingham, Ala.  
Southern Iron & Equip. Co., Atlanta, Ga.  
Sweet's Steel Co., Williamsport, Pa.  
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.  
Zelnicker Supply Co., W. A., St. Louis.

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Koppel Ind. Car & Equip. Co., Koppel, Pa.

#### **—(Marine.)**

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North American Refractories Co., Cleveland, Ohio.  
Taylor Sons Co., Charles, Cincinnati.

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Connors Steel Co., Birmingham, Ala.  
Dietrich Brothers, Baltimore, Md.  
Gulf States Steel Co., Birmingham, Ala.  
Knoxville Iron Co., Knoxville, Tenn.  
Ryerson & Son, Inc., Jos. T., St. Louis and New York.  
Southern Engineering Co., Charlotte, N. C.  
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Erie Machine Shops, Erie, Pa.  
Huber Mfg. Co., The, Marion, Ohio.  
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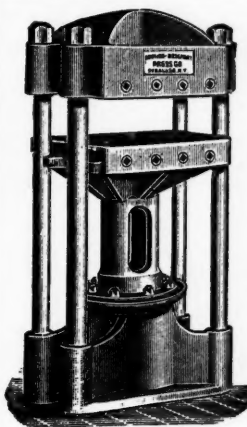
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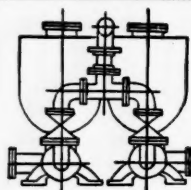
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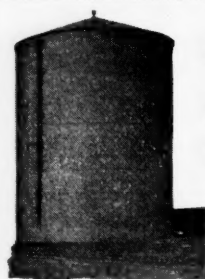
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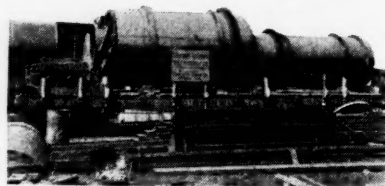
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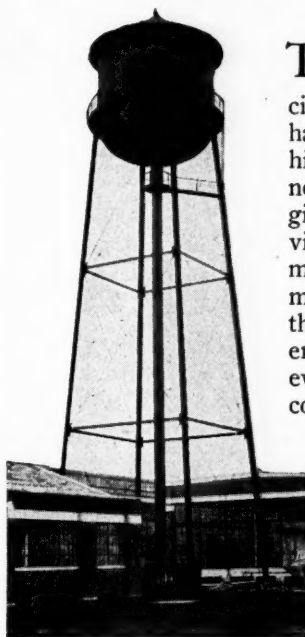
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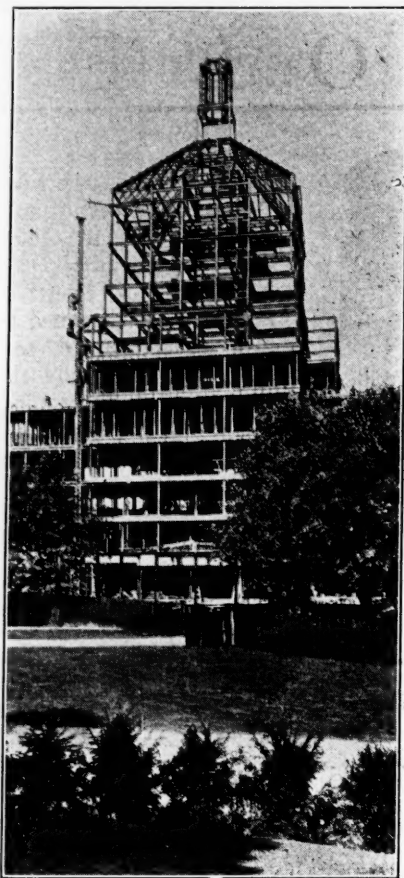
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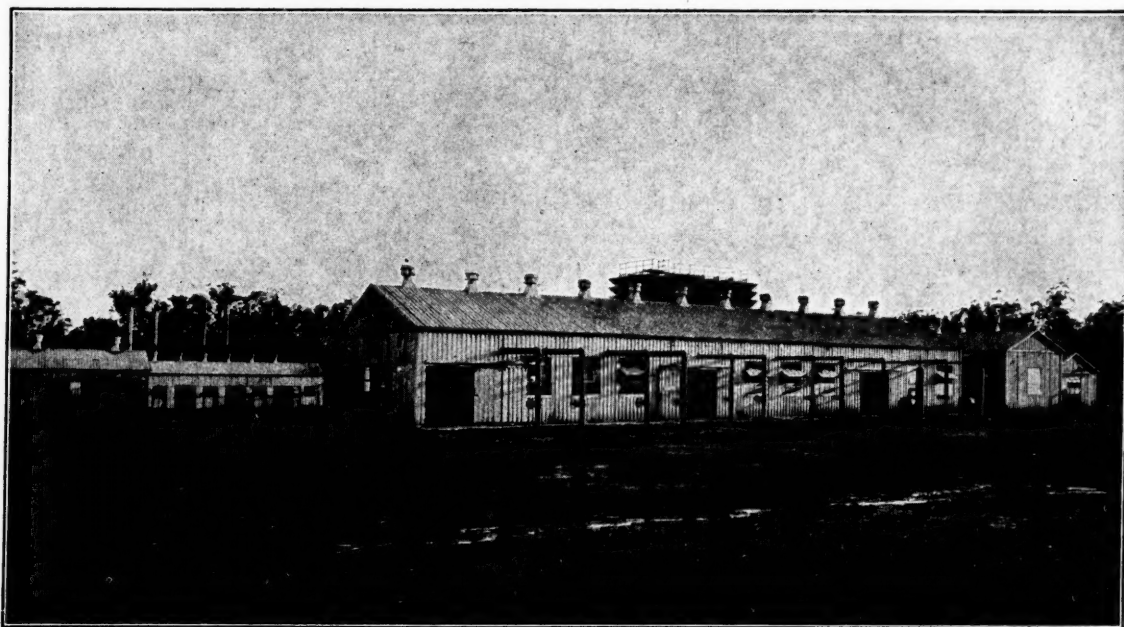
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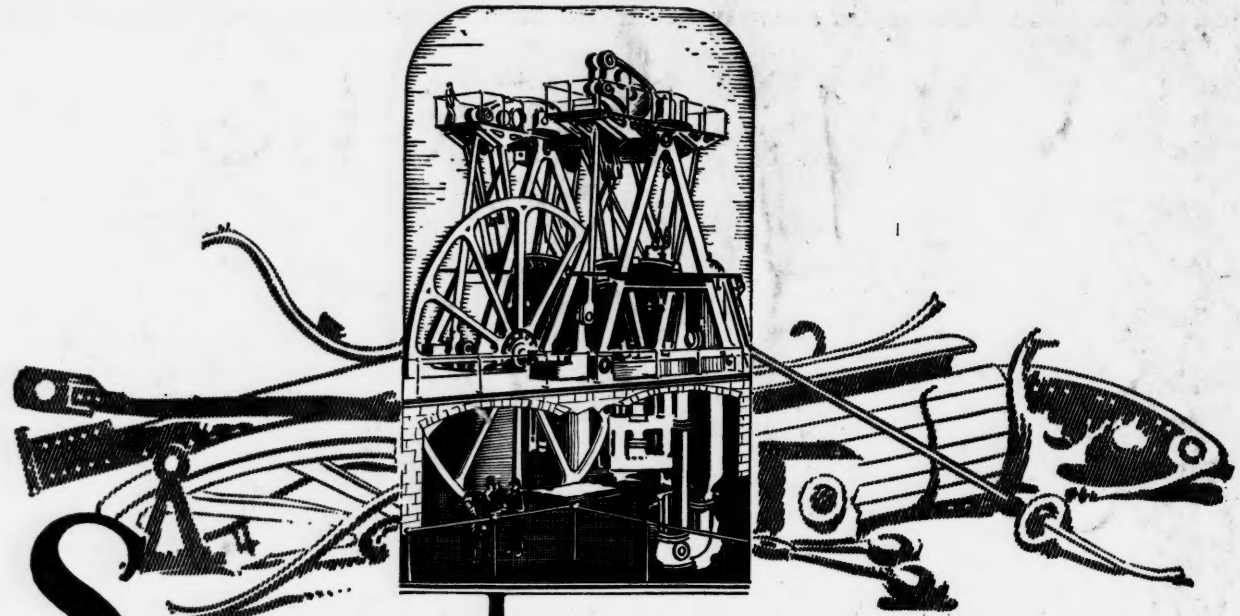
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